



Saskatchewan
Parks and
Renewable
Resources

Saskatchewan Game Management 1983-84



SASKATCHEWAN GAME MANAGEMENT

1983 - 1984

**Saskatchewan Parks and
Renewable Resources
Wildlife Branch
Population Management Section
3211 Albert Street
REGINA, Saskatchewan
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FALL 1984

ABSTRACT

HUNTING LICENCE SALES AND GAME HARVEST ESTIMATES 1983 vs 1982 and Ten Year Average

	Licence Sales			Harvest		
	1982	1983	1973-82 Average	1982	1983	1973-82 Average
1. Game Birds						
Sask. Resident	50,179	47,157	56,270			
Canadian Resident	3,719	2,978	3,880			
Non-Resident	4,034	3,741	4,170			
TOTAL	57,932	53,876	64,320			
Ducks				292,000	326,000	479,000
Geese				155,000	213,000	154,000
Sandhill Crane				3,500	3,000	* 3,800
Sharp-tailed Grouse				52,000	59,000	91,000
Hungarian Partridge				42,000	61,000	64,000
Ruffed Grouse				17,000	13,500	56,700
Spruce Grouse				3,000	4,000	9,200
Pheasant **				7,500	15,900	12,000
TOTAL				572,000	695,400	869,700
2. Big Game						
White-tailed Deer	64,957	55,600		36,216	33,574	
Moose	12,777	10,073		2,693	2,113	
Elk	3,720	4,081		334	555	
Mule Deer	5,471	7,209		4,079	6,231	
Antelope	2,554	2,411		2,090	2,010	
Bear	4,437	4,375		1,121	1,071	
Woodland Caribou	136	152		35	27	
Big Game Archery						
White-tailed Deer	1,590	1,411		138	220	
Moose	100	29		3	2	
Mule Deer	600	775		90	256	
Antelope	200	248		28	55	
Muzzleloading						
White-tailed Deer	368	575		75	197	
TOTAL	96,910	86,939		46,902	46,311	

GROSS REVENUE FROM LICENCE SALES

	1981	1982	1983	1983 vs 1982 % Change
Game Birds	549,800	562,444	994,570	+77.0
Big Game	1,640,000	1,554,000	2,338,275	+50.5
TOTAL	2,189,800	2,116,444	3,332,845	+57.5

* 9 year harvest average

** no pheasant licence required in 1983

EXECUTIVE SUMMARY

Game Birds

Waterfowl hunting regulations in 1983 were unchanged from the preceding several years. The sharp-tailed grouse season was delayed and shortened again in the southwest (wildlife management zones 1-15) and the bag limit was lowered to 3 birds per day in the Great Sandhills and South Saskatchewan River areas. The Hungarian partridge hunting season was delayed until October 3 in some wildlife management units but otherwise returned to traditional season lengths. Bag limits were doubled to 10 Huns per day in zones 1-12 in response to good reproduction in the Farmlands. Pheasant and ruffed grouse seasons were traditional although pheasant hunters were not required to purchase a separate pheasant licence in 1983 due to the closing of the previously subsidized pheasant farm near Saskatoon.

Game bird hunting was at a relatively low level again in 1983 due to poor duck, sharptail and ruffed grouse hunting. Forty-seven thousand Saskatchewan resident hunting licences were sold, compared to fifty thousand in 1982 and well below the ten year average of fifty-six thousand. Total active waterfowl hunters increased slightly from 1982 to forty-three thousand but remained below the average of fifty thousand. Active upland bird hunters increased by 5 per cent to 28,300 and upland bird hunter days increased by 19 per cent to 60,000 from 1982. Activity remained below the 1973-82 average. 6,350 active pheasant hunters doubled the 1982 harvest.

The 1983 total game bird harvest of 695,400 is 20 per cent below the average of 869,700 birds. The goose harvest of 213,000 was up 38 per cent from the 1973-82 average of 154,000. The duck harvest of 326,000 increased from the 292,000 recorded in 1982 but was still substantially below the ten year average of 479,000. Takes of upland species except for Hungarian partridge and pheasant were at near record lows due to a combination of factors including low populations, hunting restrictions and depressed hunting activity associated with poor duck hunting.

Mallards experienced average reproduction in 1983. The age ratio of immature to adults in the Saskatchewan mallard harvest was 2.12:1 as determined from wing receipts (CWS data). 1983 sharp-tailed grouse reproduction based on analysis of wing samples was 5 per cent above average. The parklands showed a drop of 13 per cent in juveniles per adult harvested. Hungarian partridge reproduction dropped 15 per cent from average in the Grasslands and went up 8 per cent in the Farmlands. Ruffed grouse reproduction was up 32 per cent from 1982 indicating an upswing at least in the Commercial Forest area of Saskatchewan.

Spring 1984 breeding population surveys revealed a very low mallard population. The decline of sharp-tailed grouse appears to have stabilized with an 11 per cent increase in breeding males/mi² in the Grasslands this year. Hungarian partridge population spring surveys show a drop of 16 per cent in the Grasslands and 33 per cent in the Farmland zones. Spring pheasant surveys showed a decrease of 16 per cent in the Grasslands but an increase of 72 per cent in the Farmlands probably in response to the easy 1983-84 winter. Ruffed grouse show some signs of recuperating with spring surveys showing breeding males up 70 per cent provincially from 1983 surveys. Some increase should therefore be evident to ruffed grouse hunters this fall particularly in forest fringe and forest wildlife management zones.

With the introduction of new wildlife management zones for 1984, an attempt has been made to keep most regulations static. The 1984 waterfowl regulations are similar to 1983 with zone adjustments. The duck and goose season has been extended to December 8 in the north to coincide with the closing date in the south.

Sharp-tailed grouse season has been delayed again in 1984 to October 1 in the Grasslands and Farmland zones 1-30. Hungarian partridge hunting will be extended to the forest fringe zones 48-55 for 1984. Bag limits remain liberal at 10 per day in zones 1 to 24. A late pheasant season will occur in zone 31 this year. Ruffed grouse can be hunted earlier in 1984 in Moose Mountain Park (Sept. 24) and Greenwater Park (Sept. 10). Spruce grouse season will extend to December 1 in all open zones (43 and 48-76). Ptarmigan season has been extended to February 2, 1985.

Big Game

Licence sales totalled 86,939, representing a 10 per cent decline from 1982. Big game licence revenue increased 50 per cent over the previous year as a result of an increase in licence fees. Licence sales declined for all species but elk, mule deer and woodland caribou. Archery licence sales increased slightly whereas the sale of muzzle-loading rifle licences for white-tailed deer increased 56 per cent over 1982 figures.

The 1983 harvest of white-tailed deer declined 7 per cent to approximately 33,500 but remains consistent with the long-term average. Declines occurred in all ecological divisions but the Farmland. White-tailed deer populations are low in the central forest fringe and central forest zones whereas productivity of extreme southeastern white-tailed deer populations remains high. Populations in the Grasslands and western Farmlands are low in relation to rapidly expanding mule deer numbers. At present, white-tailed deer populations in the Commercial Forest are considered underutilized.

The harvest of moose from northern zones declined 17 per cent to 2,113 from 2,554 in 1982. A moose season was not held in Moose Mountain Park, Cypress Hills Park or the Thickwood Hills in 1983. Provincial moose populations continue in a downward trend, particularly in the central and east central portions of the moose range. A significant decline in moose numbers was evident in Moose Mountain Park while moose populations in the Cypress Hills remain at a low level.

Mule deer populations continue to increase exponentially in primary habitats and are expanding into marginal habitats previously unoccupied or containing low densities of deer. Increases in mule deer quotas largely contribute to the reported 53 per cent increase in harvest over that of 1982. Antlerless mule deer seasons were introduced to portions of the primary mule deer range in 1983 in an attempt to retard population increases and balance sex ratios.

The 1983 harvest of elk during the regular season increased 56 per cent to 261 animals. The special season harvest approximated 273 elk. Surveys of northern elk populations were not conducted in 1983-84, however, surveys conducted in Moose Mountain Park and Cypress Hills Park (West Block) yielded population estimates of 463 and 612, respectively.

An estimated 2,010 antelope were harvested in 1983 compared with 2,090 in 1982. The provincial antelope population, estimated at 11,000 animals is up 17 per cent from 1983. The kid:doe ratio of 0.56 is down slightly from the long-term average of 0.67.

The 1984 big game hunting season is highlighted by the establishment of new wildlife management zones facilitating a more refined approach to game management. White-tailed deer management strategies include the expansion of road and road allowance trail restrictions to zones 20 and 30 and the continuation of "bucks only" hunting in zone 37. A one-week antlerless white-tailed deer season has been implemented in zones 31 and 32 to provide additional hunting opportunity and help balance skewed sex ratios. Record high mule deer quotas in 1984 result largely from expansion of antlerless hunting to much of the southwestern primary mule deer range. Game preserve and game preserve corridors will remain in effect for the 1984 hunting season to protect low moose populations in central Saskatchewan. As a further measure aimed at increasing moose calf survival and the harvest of bears in zones 58-61, two free bear tags are available with each valid big game licence. The late season (December) regular elk hunt introduced in 1983 has again been offered in 1984.

ACKNOWLEDGEMENTS

The Wildlife Branch took the responsibility for producing this report, while Communications Branch provided the Hunter Survey data. Ted Weins, Ross Melinchuk and Bob Stewart co-authored the report. Brenda Perra typed it. Many other members of these two Branches, plus the Administration Branch, made large contributions, particularly supervisory and regional Wildlife staff.

SPRR Engineering Services and Maps by Duff capably prepared most of the illustrations presented herein.

The Department is indebted to the hunters of Saskatchewan for providing, through the Hunter Surveys, the hunting information which forms the backbone of this report.

The significant contribution of SPRR Operations staff to game management in Saskatchewan is also recognized. They collect many of the biological samples used to determine the age and sex compositions of the kill, and are instrumental in conducting the spring game bird population surveys and assisting on big game aerial surveys. The Conservation Officers in the districts also frequently serve as our eyes and ears, reporting qualitative information pertinent to wildlife.

PREFACE

This report succeeds the **"Report of Hunter and Game Population Surveys"** published annually by this Department from 1976 to 1980, and commonly referred to simply as the **"Hunter Survey Report"** after the pre-1976 annual reports. It is intended to provide more comprehensive documentation of annual game management. To this end, there is much more discussion and analysis of that data than in the past, and events are traced from one set of yearly hunting regulations to the next.

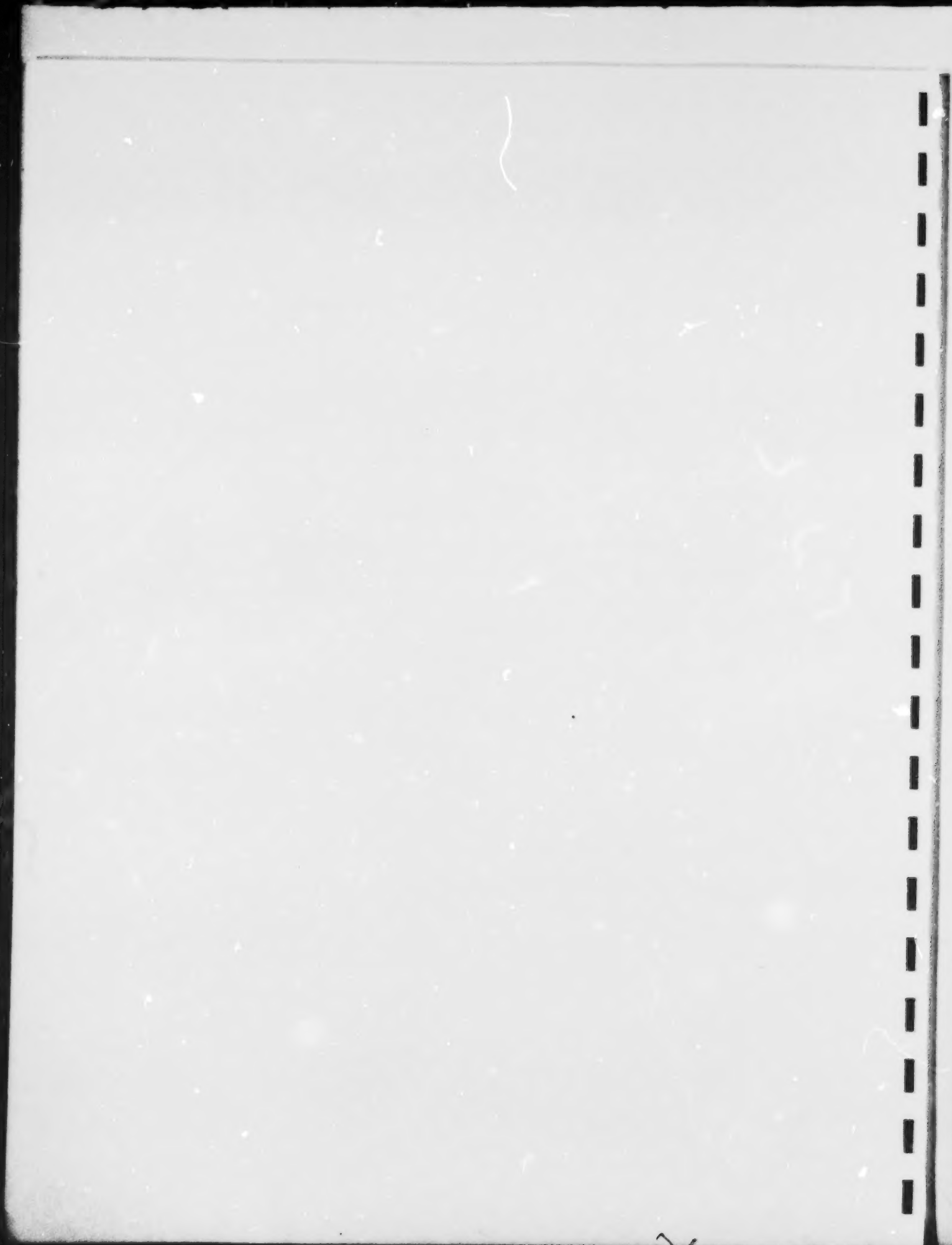


TABLE OF CONTENTS

	Page
Abstract	i
Acknowledgements	vi
Preface	vii
Table of Contents	viii
List of Tables	ix
List of Figures	xv
List of Appendices	xvii
 <u>GAME BIRDS</u>	
GENERAL	
HUNTING REGULATIONS.....	1
DATA COLLECTION TECHNIQUES	1
1983 LICENCE SALES	2
 MIGRATORY BIRDS	
INTRODUCTION	4
1983 HUNTING ACTIVITY.....	4
DUCKS	5
GEESE.....	12
SANDHILL CRANES.....	18
OTHER WATERFOWL REGULATIONS	20
 UPLAND GAME BIRDS	
1983 HUNTING ACTIVITY.....	21
SHARP-TAILED GROUSE	26
HUNGARIAN PARTRIDGE	41
PHEASANT	50
RUFFED GROUSE	60
SPRUCE GROUSE.....	70
PTARMIGAN	70
 <u>BIG GAME</u>	
GENERAL	
1983 HUNTING REGULATIONS	71
DATA COLLECTION TECHNIQUES	71
WHITE-TAILED DEER	76
MOOSE	116
MULE DEER	140
ELK	157
BLACK BEAR	168
PRONGHORN ANTELOPE	172
WOODLAND CARIBOU	179
ARCHERY HUNTING.....	181

LIST OF TABLES

	Page
Table 1. General Measures of Saskatchewan Game Bird Hunting, 1983 vs 1982 and Ten Year Average	3
Table 2. Saskatchewan Waterfowl Hunting Activity, 1973-83	4
Table 3. Saskatchewan Waterfowl Harvest Summary, 1983	7
Table 4. Saskatchewan Duck Harvest and Hunting Pressure by Game Management Zone, 1983	8
Table 5. Saskatchewan Goose Harvest and Hunting Pressure by Game Management Zone, 1983	14
Table 6. Saskatchewan Sandhill Crane Harvest by Game Management Zone, 1983	19
Table 7. Saskatchewan Upland Game Bird Hunting Activity, 1973-83	21
Table 8. Saskatchewan Upland Game Bird Harvest Summary, 1983	22
Table 9. Saskatchewan Upland Game Bird Hunting Activity Compared by Game Management Division, 1981-83	25
Table 10. Sharp-tailed Grouse Hunting Data for Saskatchewan, 1972-83	27
Table 11. Sharp-tailed Grouse Harvest and Hunting Pressure by Game Management Zone, 1983	28
Table 12. Sharp-tailed Grouse Hunting Data for Saskatchewan by Game Management Divisions, 1983	30
Table 13. Most Important Sharp-tailed Grouse Harvest Areas in Saskatchewan, 1982 and 1983	31
Table 14. Sharp-tailed Grouse Reproduction in Saskatchewan, 1983 vs Historic	35
Table 15. Saskatchewan Sharp-tailed Grouse Breeding Population Surveys, Spring 1984	37
Table 16. Hungarian Partridge Hunting Data for Saskatchewan, 1972-83	42
Table 17. Hungarian Partridge Harvest and Hunting Pressure by Game Management Zone, 1983	43

Table 18.	Hungarian Partridge Hunting Data for Saskatchewan by Game Management Division, 1983	44
Table 19.	Most Important Hungarian Partridge Harvest Areas in Saskatchewan, 1982 and 1983	45
Table 20.	Hungarian Partridge Reproduction in Saskatchewan, 1983 vs Historic	47
Table 21.	Hungarian Partridge Breeding Population Survey, Spring 1984	48
Table 22.	Pheasant Hunting Data for Saskatchewan, 1976-83	51
Table 23.	Saskatchewan Pheasant Harvest and Hunting Pressure by Game Management Zone, 1983	52
Table 24.	Important Pheasant Hunting Zones in Saskatchewan, 1983	54
Table 25.	Saskatchewan Pheasant Breeding Population Surveys, Spring 1984	57
Table 26.	Ruffed Grouse Hunting Data for Saskatchewan, 1972-83	61
Table 27.	Ruffed Grouse Harvest and Hunting Pressure by Game Management Zone, 1983	62
Table 28.	Ruffed Grouse Hunting Data for Saskatchewan by Game Management Divisions, 1983	63
Table 29.	Most Important Ruffed Grouse Harvest Areas in Saskatchewan, 1982 and 1983	65
Table 30.	Ruffed Grouse Reproduction in Saskatchewan, 1983 vs Recent Past.....	66
Table 31.	Saskatchewan Ruffed Grouse Breeding Population Surveys, Spring 1984	67
Table 32.	Areas of Native Habitat in Wildlife Management Zones.....	74
Table 33.	Provincial White-tailed Deer Harvest 1978-83	77
Table 34.	White-tailed Deer Harvest - Grasslands 1978-83	79
Table 35.	White-tailed Deer Harvest - Farmlands 1978-83.....	80
Table 36.	White-tailed Deer Harvest - Parklands 1978-83	81
Table 37.	White-tailed Deer Harvest - Commercial Forest 1980-83	82

Table 38.	Parkland White-tailed Deer Harvest 1960-83	83
Table 39.	White-tailed Deer Harvest, Hunter-Days, and Hunter Success by Week (Residents Licence #1)	84
Table 40.	White-tailed Deer Harvest, Hunter-Days, and Hunter Success by Week (Residents Licence #2)	85
Table 41.	Provincial White-tailed Deer Hunting Pressure 1980-83	87
Table 42.	Grassland White-tailed Deer Hunting Pressure 1980-83	88
Table 43.	Farmland White-tailed Deer Hunting Pressure 1980-83	89
Table 44.	Parkland White-tailed Deer Hunting Pressure 1980-83	90
Table 45.	Commercial Forest White-tailed Deer Hunting Pressure 1980-83	91
Table 46.	Provincial White-tailed Deer Harvest Structure 1982-83	92
Table 47.	Grassland White-tailed Deer Harvest Structure 1982-83	93
Table 48.	Farmland White-tailed Deer Harvest Structure 1982-83	94
Table 49.	Parkland White-tailed Deer Harvest Structure 1982-83	95
Table 50.	Commercial Forest White-tailed Deer Harvest Structure 1982-83	96
Table 51.	Non-resident Canadian White-tailed Deer Harvest 1982-83	97
Table 52.	Non-resident Alien White-tailed Deer Harvest 1982-83	98
Table 53.	Saskatchewan White-tailed Deer Population Surveys 1983-84	99
Table 54.	1983-84 Southwest Drainage White-tailed Deer Population Surveys	100
Table 55.	White-tailed Deer Population Structure - Helicopter Observations Oct-Nov 1983	102

Table 56.	White-tailed Deer Population Structure - Provincial Sept-Nov 1983	103
Table 57.	White-tailed Deer Population Structure - Grassland Sept-Nov 1983	104
Table 58.	White-tailed Deer Population Structure - Farmland Sept-Nov 1983.....	105
Table 59.	White-tailed Deer Population Structure - Parkland Sept-Nov 1983	106
Table 60.	White-tailed Deer Population Structure - Fringe Sept-Nov 1983	107
Table 61.	White-tailed Deer Population Structure - Forest Sept-Nov 1983	108
Table 62.	Sex and Age Structure of White-tailed Deer from Check Stations 1982-83.....	111
Table 63.	Regular Season Moose Harvest 1979-83	117
Table 64.	Special Season Moose Harvest 1979-83.....	118
Table 65.	Special Season Moose Hunting Pressure 1979-83.....	120
Table 66.	Regular Season Moose Hunting Pressure 1979-83	121
Table 67.	Regular Season Moose Harvest and Hunter-Days Recreation by Week 1983	122
Table 68.	Special Season Moose Harvest and Hunter-Days Recreation by Week 1983	123
Table 69.	Reported Composition of Combined Moose Harvest 1980-83	124
Table 70.	Reported Composition of Regular Season Moose Harvest 1979-83	125
Table 71.	Reported Composition of Special Season Moose Harvest 1979-83	126
Table 72.	Sex and Age Structure of Provincial Moose Harvest 1983.....	127
Table 73.	Age Proportions of Adults in Moose Harvest 1978-83	130
Table 74.	Moose Densities in Aerial Transect Survey Blocks 1973-84	132

Table 75.	1983-84 Moose Population Estimates (Stratified Random Block Sampling)	134
Table 76.	1983-84 Moose Sex and Age Helicopter Observations	135
Table 77.	Moose Harvest Statistics - Special Southern Areas 1981-83	138
Table 78.	Mule Deer Harvest and Hunting Success 1980-83	141
Table 79.	Mule Deer Hunting Pressure 1980-83	142
Table 80.	Sex and Age Composition - Mule Deer Harvest 1980-83	143
Table 81.	Year Class Composition of Provincial Antlerless Mule Deer Harvest 1983	144
Table 82.	1983-84 Mule Deer Population Estimates.....	147
Table 83.	1983-84 Stratified Random Block Mule Deer Population Surveys	148
Table 84.	Mule Deer Population Structure - Helicopter Observations Nov 1983	149
Table 85.	Mule Deer Population Structure - Province Sept-Nov 1983	150
Table 86.	Mule Deer Population Structures - Grasslands Sept-Nov 1983	151
Table 87.	Regular Season Elk Harvest and Hunting Success 1979-83	158
Table 88.	Regular Season Elk Hunting Pressure 1979-83.....	159
Table 89.	Regular Season Elk Harvest and Hunting by Week 1981-83.....	160
Table 90.	1983-84 Sex and Age Structure of Elk (Helicopter Observations)	162
Table 91.	1983-84 Age Classification of Bull Elk (Helicopter Observations)	164
Table 92.	Special Season Elk Hunting Pressure and Harvest 1981-83.....	165
Table 93.	Sex and Age Composition of Special Elk Harvest 1981-83.....	166

Table 94.	Black Bear Harvest 1981-83	169
Table 95.	Black Bear Hunting Pressure 1980-83	170
Table 96.	Black Bear Harvest and Success by Week 1983	171
Table 97.	Antelope Harvest 1979-83	173
Table 98.	Antelope Hunting Pressure 1979-83	174
Table 99.	Provincial Antelope Population Estimates 1981-84	175
Table 100.	Antelope Kid:Doe Ratios 1981-84	176
Table 101.	1982-84 Antelope Survey Observations	177
Table 102.	Woodland Caribou Harvest & Hunting Pressure 1980-83	180

LIST OF FIGURES

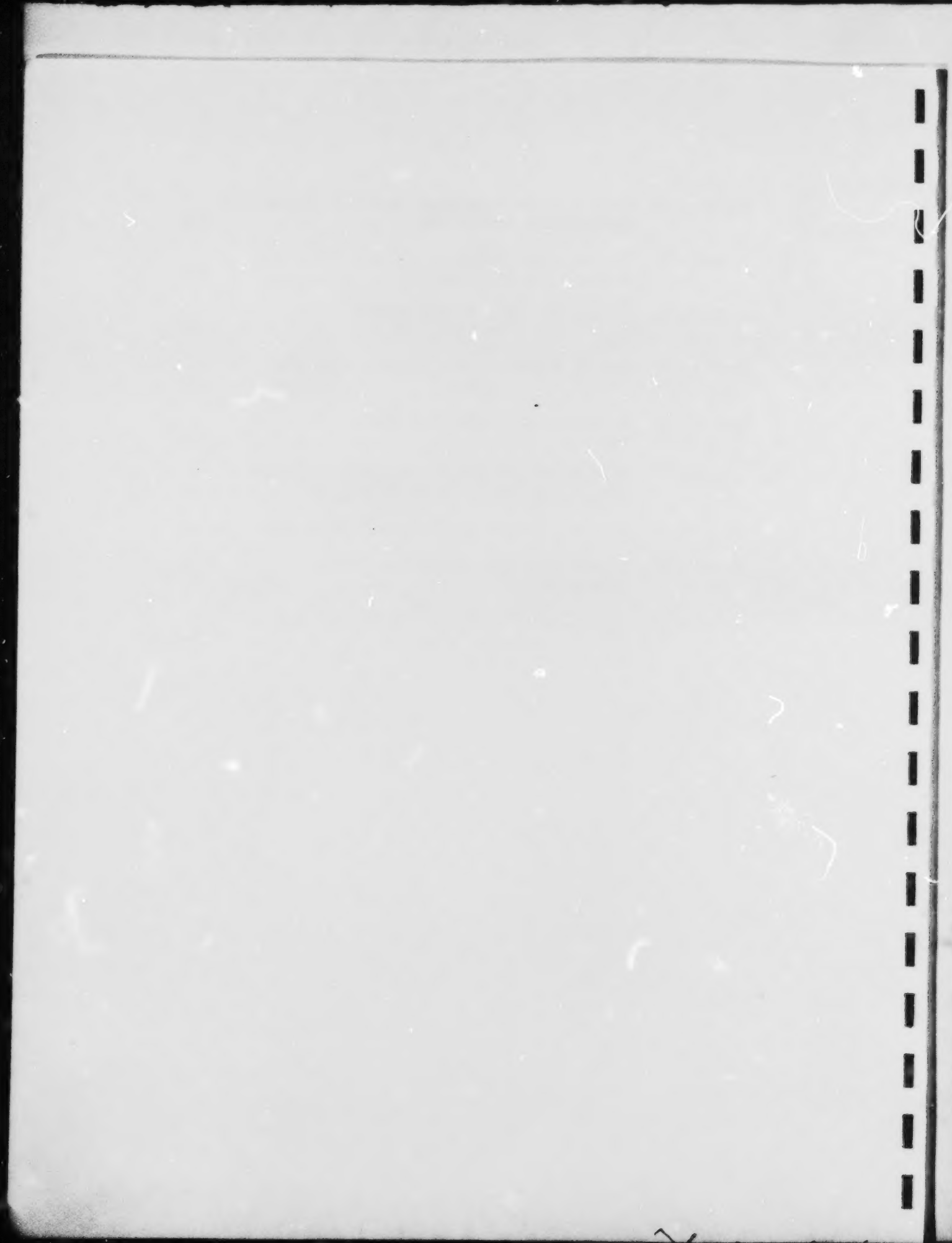
	Page
Figure 1. Saskatchewan Duck Hunter Days and Harvest, 1974-83	6
Figure 2. Saskatchewan Duck Harvest Density, 1983	9
Figure 3. Saskatchewan 1983 Duck Harvest by Weekly Intervals	10
Figure 4. Saskatchewan Goose Hunter Days and Harvest, 1974-1983.....	13
Figure 5. Saskatchewan Goose Harvest Density, 1983	15
Figure 6. Saskatchewan 1983 Goose Harvest by Weekly Intervals	16
Figure 7. Upland Game Bird Hunters Active in Saskatchewan, 1973-83	23
Figure 8. Upland Game Bird Hunter Days Expended in Saskatchewan, 1973-83. Compared by Game Management Division.	24
Figure 9. Saskatchewan Sharp-tailed Grouse and Hungarian Partridge Harvest, 1973-83	29
Figure 10. Saskatchewan Sharp-tailed Grouse Harvest Density, 1983	32
Figure 11. Saskatchewan 1983 Upland Game Bird Harvest by Weekly Intervals	33
Figure 12. Saskatchewan Upland Game Bird Fall Age Ratios (Reproduction Index), 1973-83	36
Figure 13. Sharp-tailed Grouse Breeding Population Trends, 1978-84	38
Figure 14. Saskatchewan Hungarian Partridge Harvest Density, 1983	46
Figure 15. Saskatchewan Pheasant Licence Sales, Hunting and Harvest, 1973-83	53
Figure 16. Saskatchewan Pheasant Harvest Density, 1983	55
Figure 17. Saskatchewan 1983 Pheasant Harvest by Weekly Intervals	56

Figure 18.	Saskatchewan Pheasant Spring Breeding Population Index, 1973-84	58
Figure 19.	Saskatchewan Ruffed Grouse Harvest Density, 1983	64
Figure 20.	Saskatchewan Ruffed and Spruce Grouse Harvest, 1973-83	69
Figure 21.	Saskatchewan White-tailed Deer Sport Hunter Harvest, Recreation-Days, and Effort 1970-83	78
Figure 22.	Productivity of White-tailed Deer for Melville Region as determined from 1982-83 Co-operator Observations and 1983 Helicopter Surveys	109
Figure 23.	Sex Ratios of White-tailed Deer in Melville Region as determined from 1982-83 Co-operator Observations and 1983 Helicopter Surveys	110
Figure 24.	Sex and Age Class Structure of 1983 White-tailed Deer Harvest in GMZ 7	112
Figure 25.	Sex and Age Class Structure of 1983 White-tailed Deer Harvest in GMZ 16	113
Figure 26.	Provincial Moose Harvest Statistics 1958-83	119
Figure 27.	Provincial Check Station Moose Harvest Statistics 1958-83	128
Figure 28.	Sex and Age Structure of Provincial Moose Harvest Index Trends 1983	129
Figure 29.	Moose Transect Population Estimate and Harvest Index Trends 1959-84	133
Figure 30.	Year-Class Composition of Provincial Antlerless Mule Deer Harvest 1983	145
Figure 31.	Regular Season Elk Hunter Activity by Week 1983-84	161

LIST OF APPENDICES

	Page
Appendix 1. Saskatchewan 1983 Game Bird Seasons	182
Appendix 2. Saskatchewan 1984 Game Bird Seasons	183
Appendix 3. Recent Saskatchewan Game Bird Hunting Regulations	184
Appendix 4a Saskatchewan Game Management Zones, 1975-83	191
Appendix 4b Saskatchewan Wildlife Management Zones, 1984	192
Appendix 5. 1983 Saskatchewan Game Bird Hunter Survey Questionnaire.....	193
Appendix 6. 1983 Saskatchewan Game Bird Hunter Survey Follow up Letter	197
Appendix 7. Criteria To Be Used To Determine Duck Bag Limits In Saskatchewan During Stabilized Hunting Regulations, 1979-84	198
Appendix 8. Sharp-tailed Grouse Reproduction in Saskatchewan, 1983	199
Appendix 9. Hungarian Partridge Reproduction in Saskatchewan, 1983	200
Appendix 10. Ruffed Grouse Reproduction in Saskatchewan, 1983	201
Appendix 11. 1983 Game Bird Seasons by Game Management Zone	202
Appendix 12. 1983 Saskatchewan Big Game Seasons	211
Appendix 13. 1984 Saskatchewan Big Game Seasons	214
Appendix 14. 1983 Saskatchewan Big Game Draw Procedures	217
Appendix 15. 1983 Saskatchewan Big Game Hunter Questionnaire.....	222
Appendix 16. 1983 Saskatchewan Co-operative Wildlife Management Study	226
Appendix 17. New "1984" Saskatchewan Game Management Zone Map	227
Appendix 18. Resident White-tailed Deer Licence #1 Hunter Questionnaire Returns 1983	228

Appendix 19.	Resident White-tailed Deer Licence #2 Hunter Questionnaire Returns 1983	229
Appendix 20.	Moose Harvest Composition by Zone - Hunter Questionnaire Estimates 1983	230
Appendix 21.	Sex and Age Structure of Provincial Moose Harvest, Old Zones 23-33 1983	231
Appendix 22.	Regular Moose Hunter Questionnaire Returns 1983	253
Appendix 23.	Special Moose Hunter Questionnaire Returns 1983	254
Appendix 24.	Year-Class Composition of Antlerless Mule Deer Harvest, Old GMZ 5, 6A, 6B, 6C 1983	255
Appendix 25.	Mule Deer Hunter Questionnaire Returns 1983	263
Appendix 26.	Regular Season Elk Hunter Questionnaire Returns 1983	264
Appendix 27.	Special Season Elk Hunter Questionnaire Returns 1983	265



GAME BIRDS

GENERAL

HUNTING REGULATIONS

The 1983 and 1984 game bird hunting regulations are outlined in Appendices 1 and 2, respectively. Season dates and bag limits from the recent past are presented in Appendix 3(a-f). Appendix 4a illustrates the old game management zones, established in 1975 and used until 1983. Appendix 4b illustrates the 76 new wildlife management zones to be used starting in 1984.

DATA COLLECTION TECHNIQUES

Licence Sales

Licence sales are tabulated by the Revenue Section of the Administration Branch of Saskatchewan Parks and Renewable Resources, using returns from licence vendors and Department offices.

1983 Saskatchewan Game Bird Hunter Survey

20,000 of the 50,179 resident game bird hunters from 1982 were randomly selected to receive the 1983 Hunter Survey, using 1982 licence stubs. These hunters were mailed a survey form (Appendix 5) during the first half of September. Hunters returned twelve per cent of the surveys by mid November. On November 17, a follow up letter (Appendix 6) and another copy of the questionnaire were mailed to all non-respondents (88% of original mailing). The total response by the February 1, 1984 cut off date for receipt of resident returns was 39%. The return rate for the 1982 survey was 43% and for 1981, 48%.

Fifteen hundred Canadian resident bird hunters and fifteen hundred non-resident hunters were also sampled using the 1983 licence stubs. Questionnaires were mailed in December and no second mailing was conducted. The overall response to this single mailing was 48.5% with 50% of the non-residents of Canada and 43% of Canadian residents responding.

The returned questionnaires were edited by the Statistics and Evaluation Section of Communications Branch and keypunched by Administrative Services Branch. Don Fowler, a Saskatoon consultant conducted the computer analysis of the data. Computer printouts were available by April 1, 1984 and were used extensively to write this report.

Wing Collection

2,300 wings were collected from hunter-bagged upland game birds in the fall of 1983 to derive population age-structures, from which reproductive success can be inferred. Using special envelopes provided, Conservation Officers collected wings from hunters encountered in the field and enlisted the assistance of wildlife organizations to obtain samples. For the fourth consecutive year, individual and group awards for the largest species collection provided additional incentive to the officers. Wildlife Branch staff collected wings on an incidental basis.

Experienced wildlife staff and Kelsey Institute students in Saskatoon aged the wings according to primary feather eruption and wear.

Population Surveys

Upland game bird populations were surveyed between April 15 and May 15, 1984, using established, previously updated, survey methods. Wildlife Branch staff and Conservation Officers conducted the surveys. The data were compiled and analysed by the Wildlife Branch.

1983 LICENCE SALES

Forty seven thousand Saskatchewan game bird hunting licences were sold to provincial residents in 1983, down 6% from 1982 and well below the recent average of 56,000 (Table 1). Poor duck hunting was partly responsible for the depressed sales, although poor grouse hunting and a doubling of licence fees were also contributing factors. Licence sales to other Canadians were down 20% and non-residents of Canada down 7%, producing a total of 53,876 licences sold. In 1983, Saskatchewan residents were not required to purchase a special licence to hunt cock pheasants.

Table 1. General Measures of Saskatchewan Game Bird Hunting, 1983 vs 1982 and Ten Year Average

Hunter Category	Sask. Game Bird Licence Sales		Active Waterfowl Hunters		Active Upland Game Bird Hunters	
	1982	1983	Ten Year Average	1982	1983	Ten Year Average
Sask. Resident	50,179	47,157	56,270	35,276	36,498	—
Non-Resident (Canadian)	3,719	2,978	3,880	3,296	2,807	—
Non-Resident (Alien)	4,034	3,741	4,170	3,876	3,593	—
TOTAL	57,932	53,876	64,325	42,448	42,898	49,560
						26,885
						28,265
						32,795



MIGRATORY BIRDS

INTRODUCTION

The Canadian Wildlife Service is primarily responsible for migratory birds, although they are managed in Saskatchewan in consultation with this provincial authority. The Canadian Wildlife Service directly collects much of the prerequisite data. Their migratory game bird hunter survey is overlapped by the Saskatchewan Game Bird Hunter Survey (Appendix 5), the 1983 results of which are reported herein.

The stable 1983 waterfowl hunting season dates and bag limits (Appendix 1) fell within a framework of regulations in effect for five years (Appendix 7).

1983 HUNTING ACTIVITY

Waterfowl hunting is the main component of Saskatchewan game bird hunting. Total waterfowl hunting increased approximately 14% from 1982 (Table 2). Active hunters totalled 42,900 in 1983, including 6,400 (15%) non-residents. This was 13% below the recent average of 49,500 active hunters, held down by poor duck hunting. The 1983 hunters averaged 2.9 days in the field which is slightly above the 10 year average (Table 2).

Table 2. Saskatchewan Waterfowl Hunting Activity, 1973-83

Year	Active Waterfowl Hunters	Waterfowl Hunter Days	Hunter Days/ Active Hunter
1973	43,200	116,700	2.7
1974	47,700	150,000	3.1
1975	56,100	175,500	3.1
1976	58,600	188,600	3.2
1977	57,100	163,300	2.9
1978	52,300	135,400	2.6
1979	51,300	138,300	2.7
1980	48,600	128,200	2.6
1981	38,300	98,100	2.6
1982	42,400	108,200	2.5
1973-1982 Average	49,560	140,230	2.8
1983	42,900	122,900	2.9
<u>% Change</u>			
1983 from 1982	+ 1%	+ 14%	+ 16%
1983 from Average	- 13%	- 12%	+ 4%

DUCKS

1983 Hunting/Harvest

Low duck populations in the fall of 1983 continued to suppress duck hunting, in spite of constant, liberal hunting regulations (Appendix 3a). The 1983 mallard reproduction index was 2.12 juveniles/adult which is slightly above the 1967-82 average of 2.05 (Western Wing Bee data). Duck hunting activity and the harvest increased slightly but remained well below average (Figure 1). Thirty four thousand seven hundred (34,700) active hunters spent an average of 2.2 days hunting and reported a harvest of 326,000 ducks, 75% (245,000) of which were mallards (Tables 3, 4). The geographic and chronological distribution of the duck harvest are illustrated in Figures 2 and 3, respectively. 45,383 federal migratory game bird hunting permits were issued in 1983 (41,965 to residents and 3,418 to non-residents) compared to 47,236 permits in 1982.

1984 Populations and Regulations

Poor water conditions in southern Saskatchewan would suggest a dismal year for duck production in 1984. Observations during the Canadian Wildlife Service recruitment surveys and the co-operative breeding duck survey conducted by CWS and USFWS indicated the spring season began earlier than in 1983 with very warm, dry weather in April. Late April and early May were cooler and major snow storms occurred on April 27 in the southeast and May 24 in parts of northern Saskatchewan. Precipitation in the south was only 25% to 90% of normal while some northern areas received 270% of average precipitation.

As a result of precipitation patterns, May pond counts decreased by over 1 million from 1983 (-43%) and were 34% below the 1974-83 average. Only 1.5 million ponds were estimated with all six southern stratum surveyed showing decreases in May pond numbers. Mallard numbers for the six southern stratum are estimated at 1,396,300 which is a decrease of 18% from 1983 and 36% below the 1974-83 average (CWS/USFWS data). Pintail numbers were estimated at 542,000, down 47% from 1983.

The Continental mallard breeding population is estimated at 5.97 million which is down 16% from 1983 and 30% below the 1955-83 average (USFWS data).

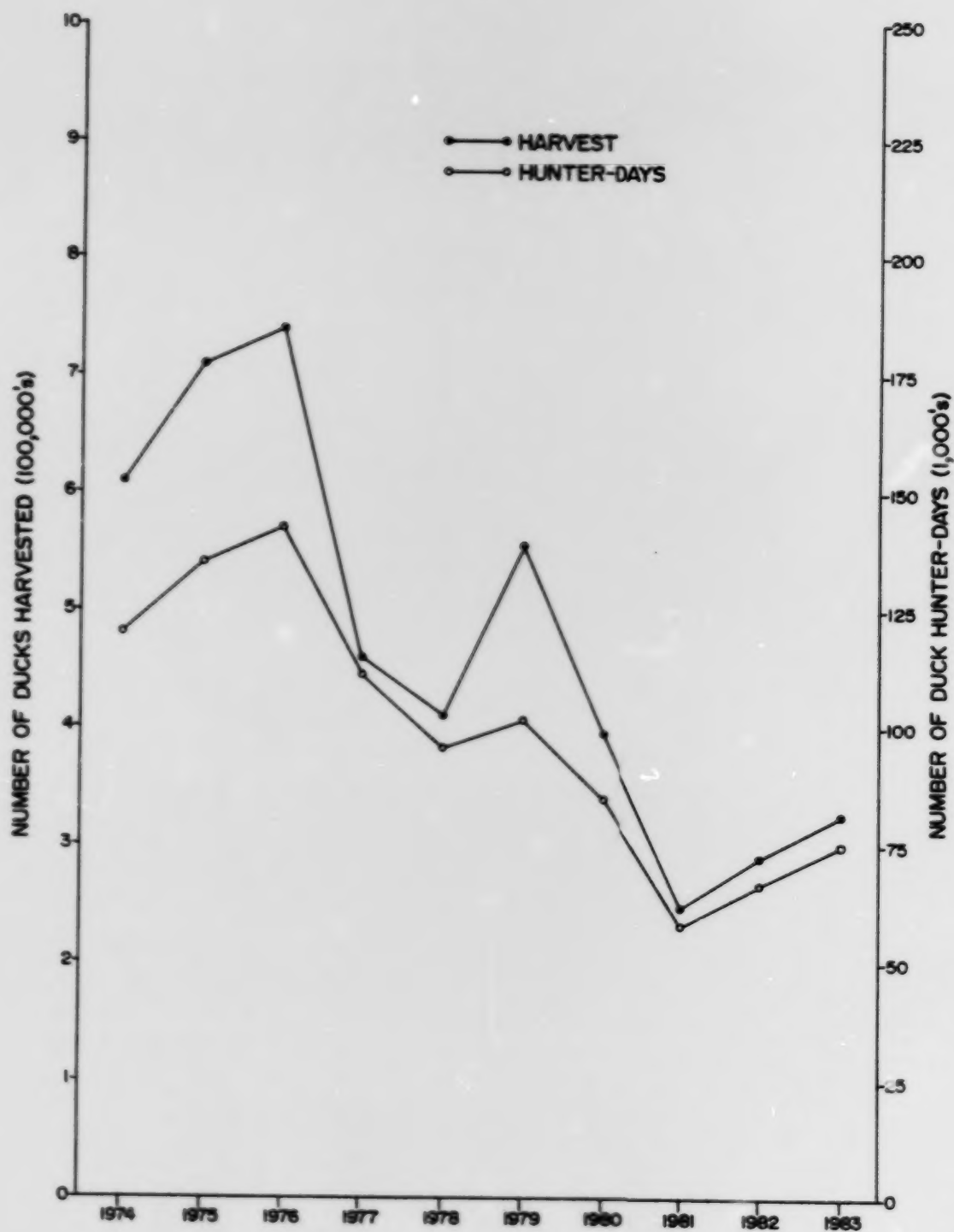


Figure 1. Saskatchewan duck hunter-days and harvest, 1974-1983.

Table 3. Saskatchewan Waterfowl Harvest Summary, 1983

MALLARD DUCKS				TOTAL			
		SASK. RESIDENT	CAN. RESIDENT	MCH RESIDENT			
OTHER DUCKS		195165	59,458	13689	4,208	35688	10,948
TOTAL DUCKS		64559	19,802	3315	1,028	13685	4,208
		259723	79,658	17004	5,218	49373	15,148
SUCCESSFUL HUNTERS (1 OF ACTIVE)		25010	(84,128)	1337	(85,458)	2942	(92,988)
DAYS/ACTIVE HUNTER		8.7		1.0		1.0	
DAYS/SUCCESSFUL HUNTER		10.4		1.0		1.0	
DAYS/ACTIVE HUNTER		2.0		2.4		2.4	
DAYS/SUCCESSFUL HUNTER		60576.5		4371.4		10084.0	
							75031.6
CANADA GEESE							
WHITE-FRONTED GEESE		98758	46,368	11108	5,218	12511	5,878
SNOW GEESE		33964	15,948	3350	1,578	5687	2,678
OTHER GEESE		35135	16,498	2950	1,384	4746	2,238
TOTAL GEESE		4059	1,918	421	0,208	336	0,168
		171917	80,704	17830	8,378	23280	10,938
SUCCESSFUL HUNTERS (1 OF ACTIVE)		23747	(79,778)	3370	(92,408)	3889	(88,568)
DAYS/ACTIVE HUNTER		29768		3565		3723	
DAYS/SUCCESSFUL HUNTER		1.3		7.0		6.1	
DAYS/ACTIVE HUNTER		1.4		2.4		2.4	
DAYS/SUCCESSFUL HUNTER		56272.0		6054.3		7543.0	
							69868.9
WATERFOWL (D+G)							
		431641	80,068	34833	6,468	72653	13,448
SUCCESSFUL HUNTERS (1 OF ACTIVE)		32593	(89,308)	2669	(95,058)	3490	(97,138)
DAYS/ACTIVE HUNTER		36498		3609		3593	
DAYS/SUCCESSFUL HUNTER		1.3		1.4		1.4	
DAYS/ACTIVE HUNTER		2.7		3.4		3.4	
DAYS/SUCCESSFUL HUNTER		99358.2		8971.1		14581.9	
							122902.2

* HALF DAY = HALF DAY.

Table 4. Saskatchewan Duck Harvest and Hunting Pressure by Game Management Zone, 1983

GMZ	TOTAL KILL	% OF ACTIVE HUNTERS	BIRDS PER SQ. MILE	HUNTER DAYS	TOTAL HUNTER DAYS	DUCK HUNTER DAYS	GMZ	TOTAL KILL	% OF ACTIVE HUNTERS	BIRDS PER SQ. MILE	HUNTER DAYS	TOTAL HUNTER DAYS	DUCK HUNTER DAYS
1	3299	1.01	482	1.250	0.27	895	20	11945	3.66	1674	3.548	0.39	4694
2	804	0.25	234	0.170	0.54	437	21	27388	8.40	3009	4.285	0.30	8164
3	1582	0.49	313	0.410	0.59	931	22	20290	6.22	2629	2.189	0.32	6444
4	615	0.19	199	0.356	0.67	415	23	4954	1.52	932	0.971	0.44	2176
5	5844	1.79	1188	2.022	0.68	4002	24	445	0.14	48	0.222	0.54	239
6	11513	3.53	2767	2.086	1.11	12745	25	303	0.09	108	0.206	0.96	292
7	24324	7.46	2853	3.506	0.33	8035	26	1390	0.43	150	0.819	0.25	351
8	23370	7.17	3055	2.776	0.30	6928	27	5193	1.59	264	1.346	0.21	1107
9	26231	8.04	3694	4.302	0.30	7784	28	2477	0.76	379	0.518	0.37	909
10	21083	6.47	2872	4.576	0.40	8457	29	492	0.15	54	0.095	0.15	74
11	24166	7.41	3032	12.311	0.34	8180	30	7279	2.23	838	1.568	0.30	2150
12	17416	5.34	2654	3.073	0.34	6720	31	457	0.14	83	0.108	0.27	125
13	30645	9.40	4191	4.414	0.30	9229	32	1860	0.57	293	0.525	0.31	581
14	5671	1.74	1176	1.626	0.88	5011	33	1234	0.38	154	0.366	0.37	453
15	5436	1.67	1078	1.728	0.50	2707	34	629	0.19	59	0.041	0.26	166
16	5043	1.56	912	1.021	0.41	2091	35	1277	0.39	117	0.373	0.19	243
17	4498	1.38	679	1.708	0.32	1439	36	620	0.19	70	0.024	0.27	166
18	7355	2.26	941	2.324	0.32	2318	37	6	0.00	5	0.000	1.00	6
19	16926	5.80	2219	3.506	0.33	6248							
TOTAL							TOTAL						
326100							122911						
45505							75036						
1.316							0.38						

* HUNTER DAYS ARE BASED ON ALL WATERFOWL HUNTING. HALF DAY = HALF DAY.
REFER TO APPENDIX A FOR SQUARE MILES PER GMZ

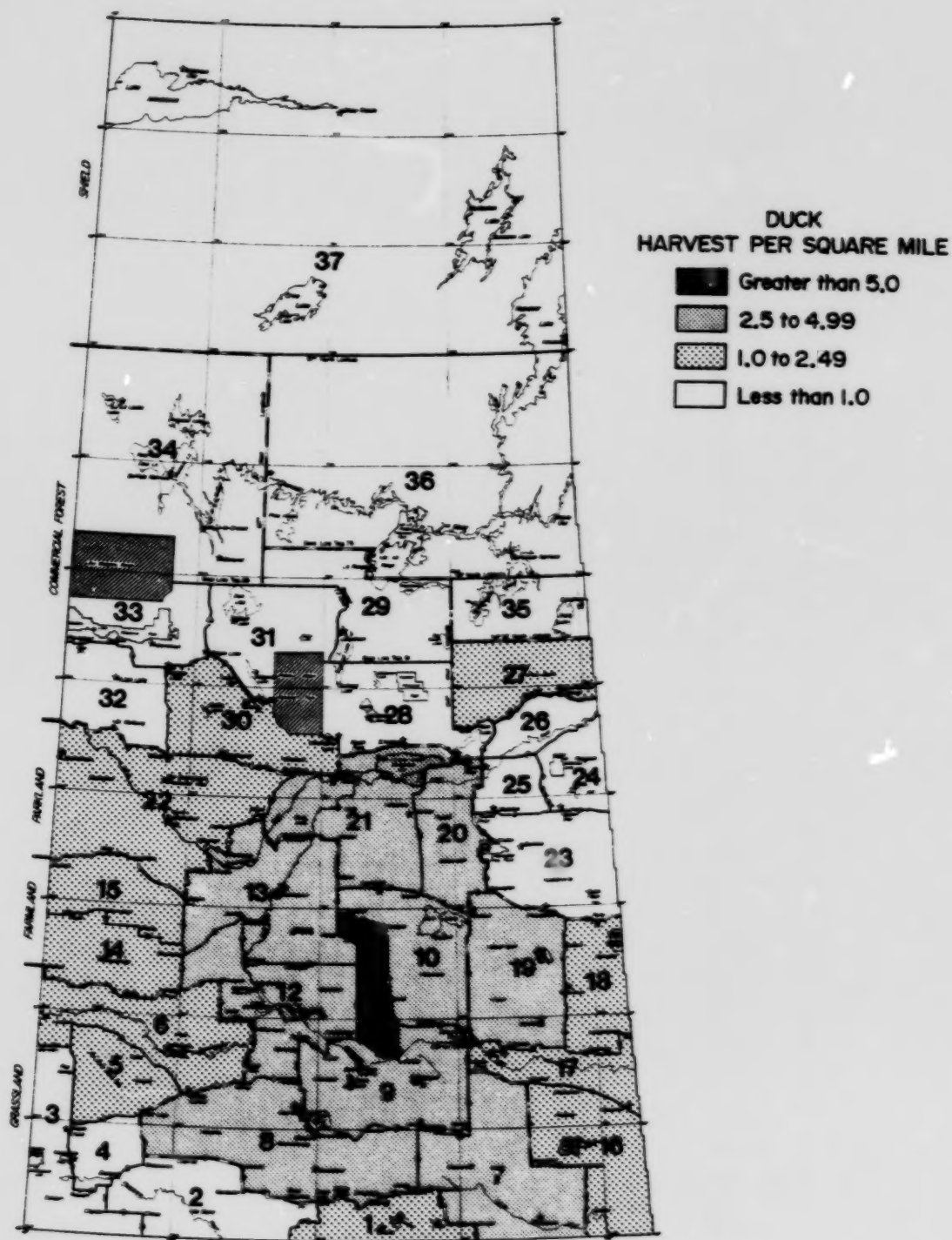


Figure 2. Saskatchewan duck harvest density, 1983.

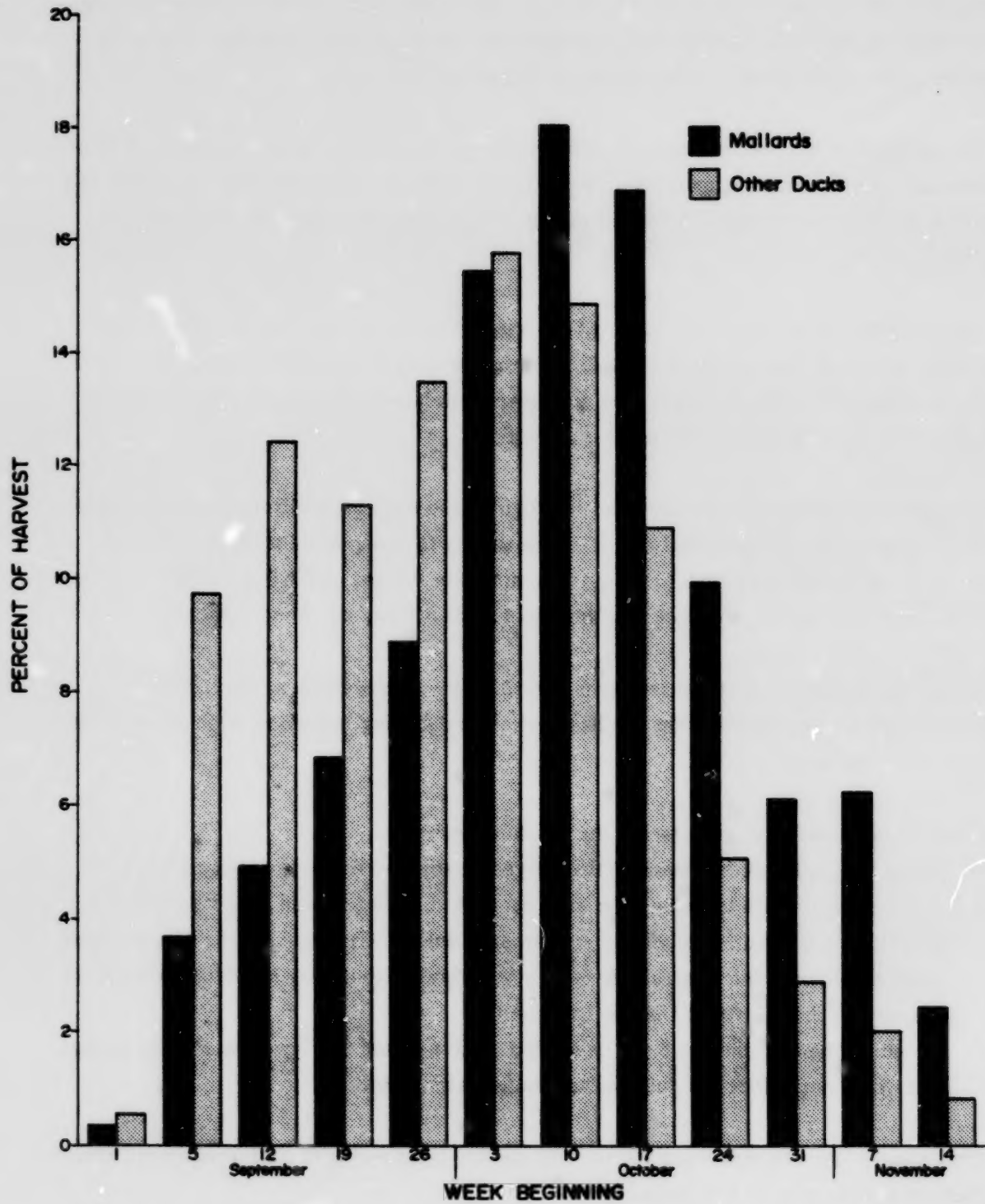


Figure 3. Saskatchewan 1983 duck harvest by weekly intervals.

Habitat conditions continue as a limiting factor. The margins of 85 per cent and the basins of 66 per cent of more than 5,000 potential ponds identified during surveys were disturbed by agricultural activities, primarily cultivation, filling, mowing and burning (CWS data). Good brood rearing habitat is extremely limited.

The annual July Waterfowl Production Survey flown in southern Saskatchewan by USFWS personnel indicated the number of July ponds (652,700) was down 45% from 1983 and 34% below the 1974-83 average. A normal loss of 51% of ponds occurred between May and July.

The total duck brood index of 70.5 (70,500) was virtually unchanged from 1983 but was 41% below the 1974-83 average of 119.3. Average brood size was 4.7 ducklings per brood which is only 2% below average. The combined duck late-nesting index (64.0) was 60% below 1983 and 70% below the ten year average.

Consultations regarding 1984 duck hunting regulations were held with Canadian Wildlife Service, the primary waterfowl regulatory authority (Nieman & Hunt 1984). The Saskatchewan Migratory Bird Advisory Committee composed of CWS and SPRR members recommended lowering the duck bag limit to 4 birds per day and 8 in possession.

After Canada-United States discussions regarding the 1984 waterfowl regulations, Federal authorities decided that the Saskatchewan duck bag limit would remain at 8 per day, 16 in possession.

Three main reasons for not altering the bag limit were:

- a) The U.S.A. is in the last year of their 5-year stabilized regulations program.
- b) A move on our part to reduce the duck harvest in Saskatchewan would be of little benefit to the continental waterfowl resource unless corresponding regulations were made throughout the Central and Mississippi Flyways (our duck kill depends more on the size of the fall flight than on the bag limit).
- c) Reducing the bag limit to 6 per day, 12 possession would be viewed as a token change and would not affect the duck harvest in Saskatchewan.

The calendar adjustments made to the duck season dates and wildlife management zone changes are outlined in Appendix 2.

GEESE

1983 Hunting/Harvest

Excellent goose hunting persisted in 1983 under traditional regulations (Appendices 1, 3b). A provincial goose harvest of 213,000 is the highest reported in the last ten years (Figure 4; Tables 3, 5). The reported species composition of the harvest was Canada geese - 57%; white-fronted geese - 20%; snow geese - 20%; others (i.e. Ross' geese) - 2%. Thirty six thousand (36,000) active hunters expended 70,000 hunter days in pursuit of their quarry, up 18% from 1983. The 37% increase in harvest was due primarily to increased hunting success with 6.0 geese per active hunter harvested compared to 4.8 in 1982.

The geographic and chronological distribution of the goose harvest are portrayed in Figures 5 and 6.

1984 Goose Populations and Regulations

Populations of large Canada geese continue to increase in agricultural Saskatchewan. The 1984 Wascana goose drive was very successful with a total of 1,228 Canada's banded including 821 juveniles. This was the highest number of goslings banded for release in the history of the Wascana goose drive (M. Hlady). Nine provincial waterbodies received geese from the drive.

The important Kindersley fall goose staging area received 16% less precipitation from September 1, 1983 through May 27, 1984 but reported 34% more precipitation than average from May 28 through July 14. Hot dry conditions throughout latter July and August may dry up many of the shallower staging marshes and deflect migratory Arctic geese to the South Saskatchewan River.

Mid-winter inventories of the Hi-line population and spring breeding pair and winter counts of the Western Prairie Canada goose population indicate both groups of large Canada geese are stable or slowly increasing. Mid-winter inventories of small Canada geese (Short Grass and Tall Grass Prairie population) do not suggest any need for regulation changes. White goose population (Lesser Snow and Ross') also appear to be stable or increasing (1984 Saskatchewan Waterfowl Status Report).

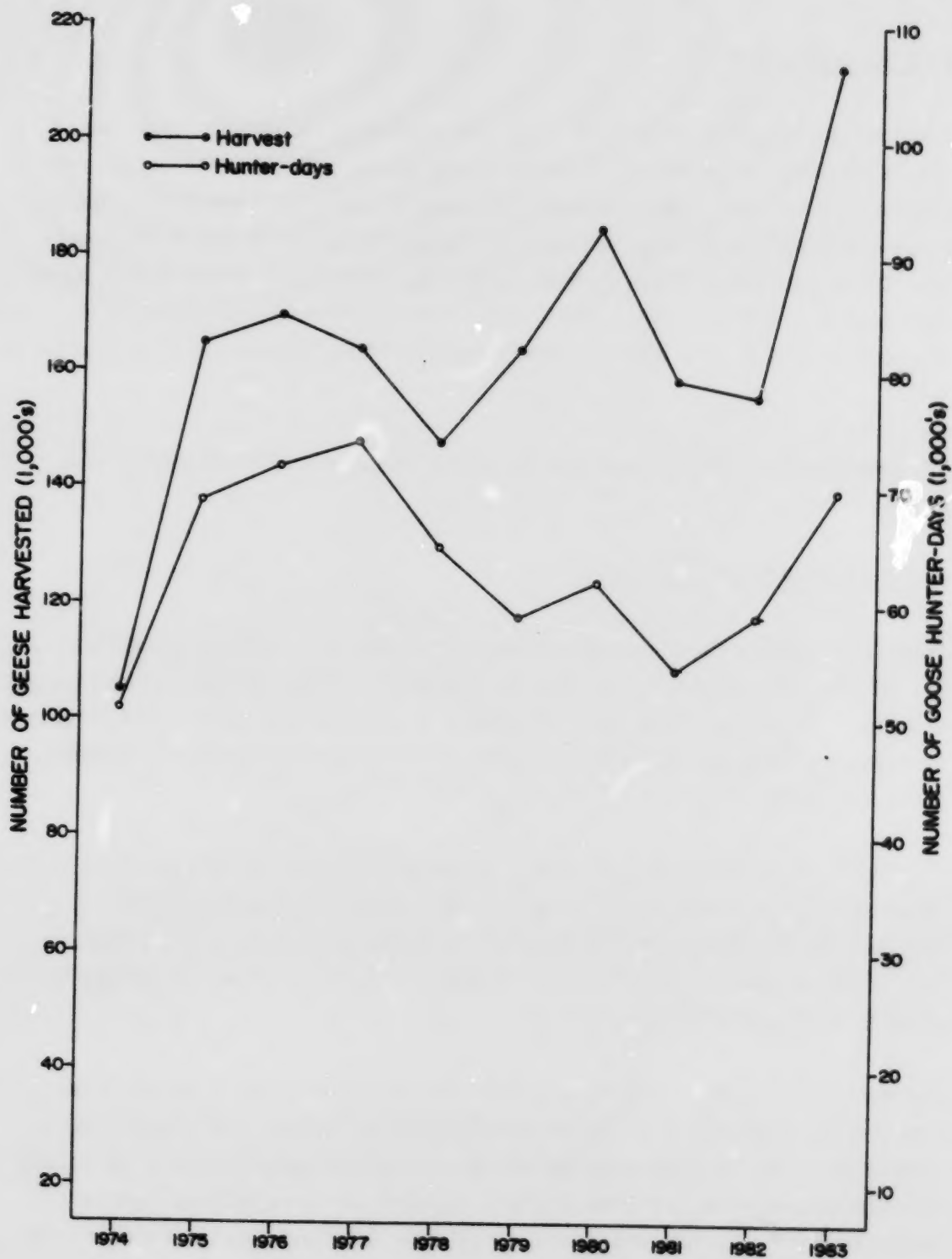


Figure 4. Saskatchewan goose hunter-days and harvest, 1974-1983.

Table 5. Saskatchewan Goose Harvest and Hunting Pressure by Game Management Zone, 1983

GMZ	TOTAL KILL	% OF HARVEST	ACTIVE HUNTERS	BIRDS PER SQ. MILE	HUNTER DAYS	TOTAL HUNTER DAYS	GOOSE HUNTER DAYS	GMZ	TOTAL KILL	% OF HARVEST	ACTIVE HUNTERS	BIRDS PER SQ. MILE	HUNTER DAYS	TOTAL HUNTER DAYS	GOOSE HUNTER DAYS
1	580	0.27	240	0.220	1.54	895	260	20	7227	3.39	1733	2.146	0.65	4694	2931
2	518	0.24	242	0.110	0.84	437	259	21	8562	4.02	2526	1.339	0.95	8164	3902
3	2931	1.34	464	0.761	0.32	931	749	22	10864	5.10	2297	1.172	0.59	6444	3340
4	576	0.27	216	0.334	0.72	613	236	23	2724	1.28	942	0.534	0.80	2176	1250
5	14319	6.72	2016	4.955	0.28	4002	3390	24	439	0.21	137	0.219	0.54	239	137
6	43231	20.29	6131	7.833	0.29	12745	11281	25	509	0.24	222	0.346	0.57	292	212
7	13033	6.12	2538	1.879	0.62	8035	4171	26	515	0.24	202	0.303	0.64	351	200
8	7172	3.37	2076	0.852	0.97	6928	2769	27	385	0.18	176	0.100	2.88	1107	293
9	6022	2.83	2336	0.988	1.29	7784	3002	28	717	0.34	326	0.150	1.27	909	419
10	14062	6.60	3210	3.052	0.60	8457	5408	29	20	0.01	10	0.004	3.70	74	10
11	10913	5.12	2507	5.559	0.75	8180	4210	30	3302	1.55	603	0.711	0.65	2150	913
12	13804	6.48	2510	2.435	0.49	6720	4368	31	39	0.02	29	0.009	3.21	125	25
13	8658	4.06	2493	1.247	1.07	9229	3136	32	472	0.22	139	0.133	1.23	581	245
14	18390	8.63	2369	5.272	0.27	5011	4479	33	503	0.24	134	0.149	0.90	453	174
15	9714	4.56	1322	3.089	0.28	2707	2185	34	20	0.01	10	0.001	8.30	166	5
16	2041	0.96	808	0.510	1.02	2091	1049	35	29	0.01	20	0.008	8.41	244	15
17	761	0.36	374	0.289	1.89	1439	389	36	73	0.03	40	0.003	2.27	166	56
18	2174	1.02	757	0.687	1.07	2318	1076	37	0	0.0	0	0.0	0.0	6	0
19	726	3.63	1825	1.431	0.81	6248	3327								
TOTAL									213025	100.00	43982	0.660	0.36	122911	69871

* HUNTER DAYS ARE BASED ON ALL WATERFOWL HUNTING. HALF DAY = HALF DAY.
REFER TO APPENDIX A FOR SQUARE MILES PER GMZ

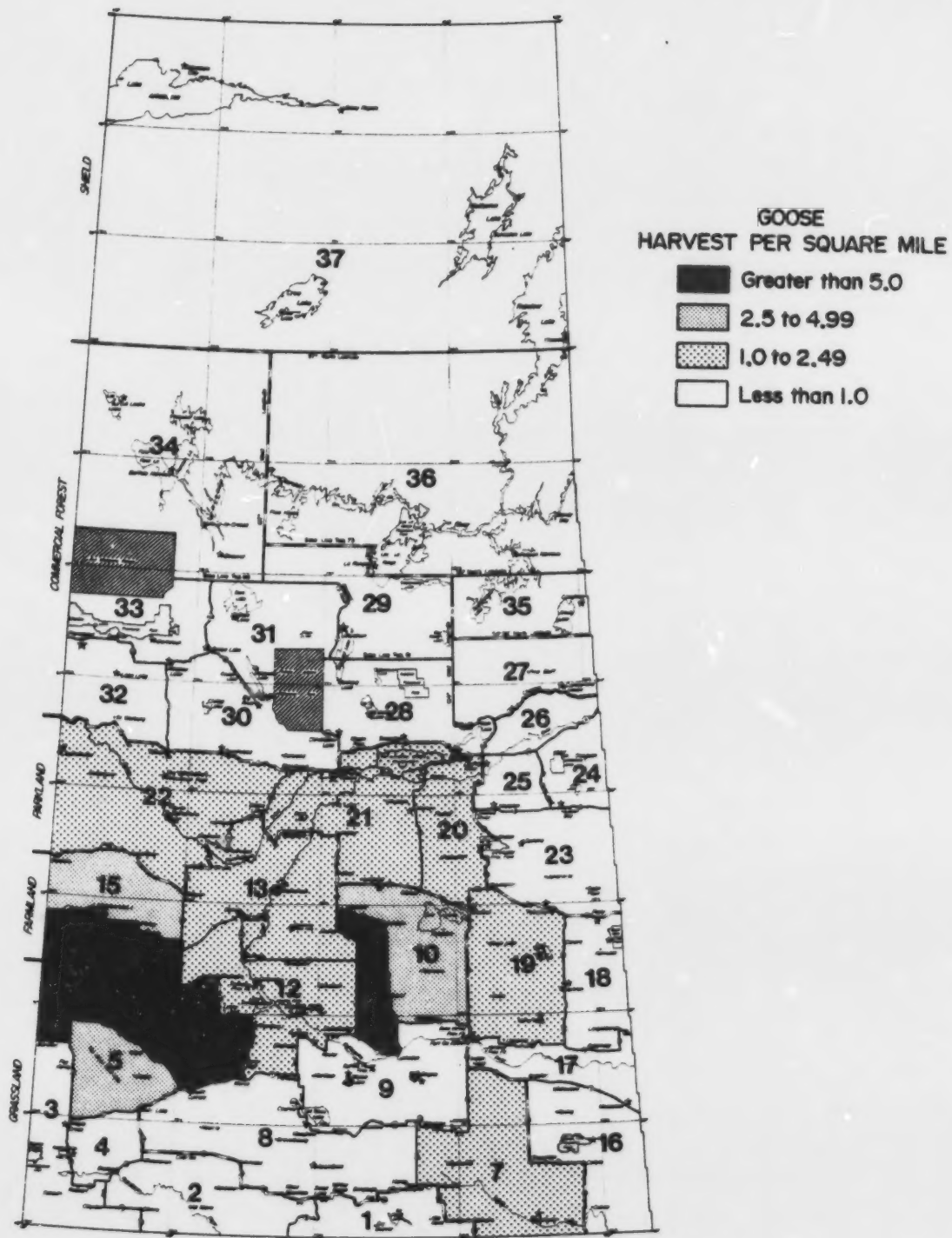


Figure 5. Saskatchewan goose harvest density, 1983.

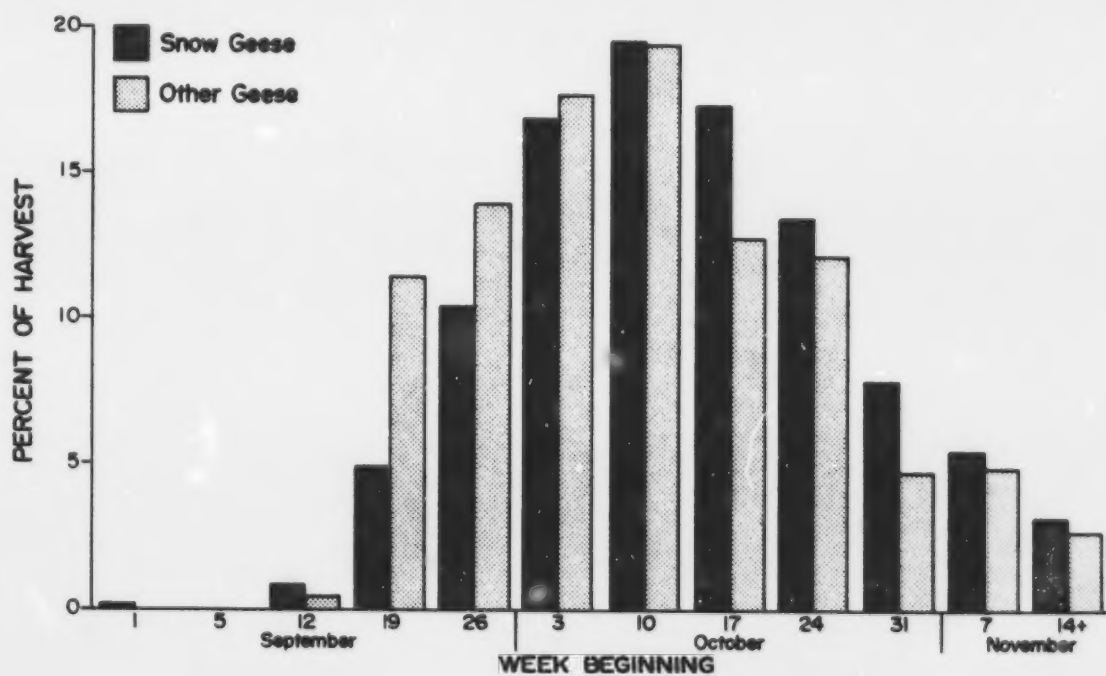
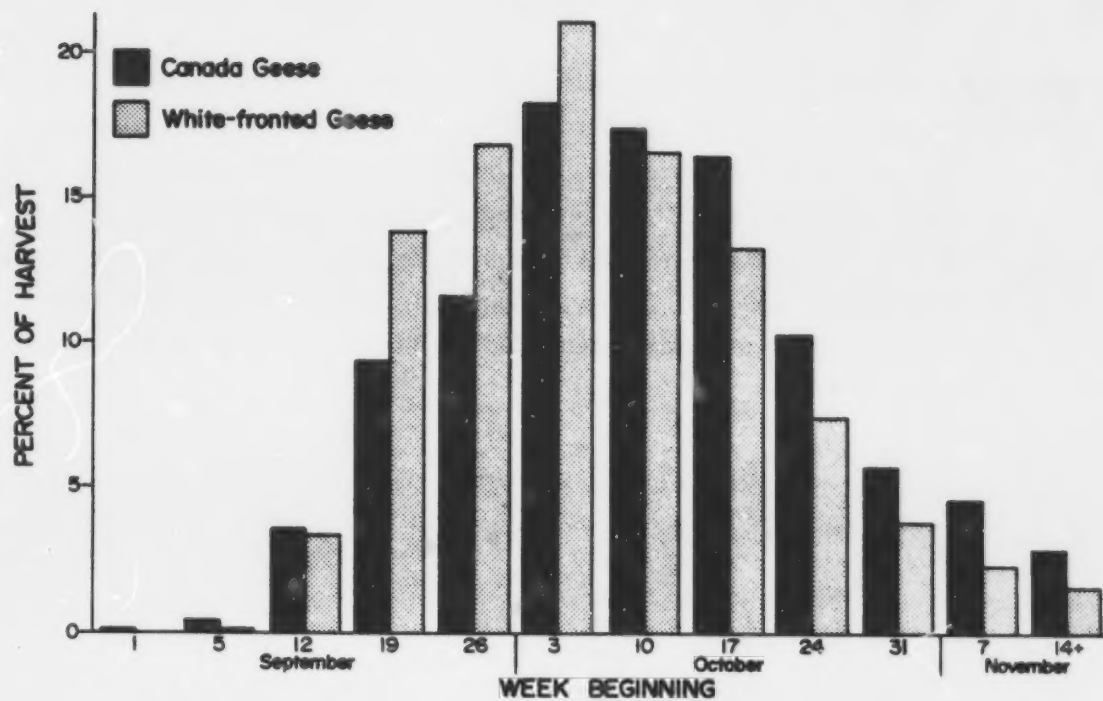


Figure 6. Saskatchewan 1983 goose harvest by weekly interval.

In 1983 it was suggested that consideration be given to increasing the bag limit for white-fronted geese in western Saskatchewan to at least 3 birds per day.

NOTE: The Saskatchewan Migratory Bird Advisory Committee met in early June and reviewed the available data pertaining to white-fronted goose populations. Since the evaluation has not been completed and since mid-continent whitefronts may presently be declining in number, liberalization of the bag limits for whitefronts would be imprudent for the 1984 season. The proposed white-fronted goose hunting regulations will therefore remain unchanged except for minor date adjustments and wildlife management zone adjustments (Appendix 2).

SANDHILL CRANES

1983 Hunting/Harvest

A total of 2,965 cranes were harvested in the 1983 crane season (Table 6 and Appendix 1). Nine hundred of the twelve hundred and twenty-nine active crane hunters were successful and spent 1,165 days hunting. There were no whooping crane sightings to interfere with the sandhill season. Sandhill crane harvest in the U.S.A. increased to 21,900 from 8,800 in 1982.

1984 Sandhill Crane Population and Regulations

The 1984 annual co-ordinated spring sandhill crane survey is conducted in at least 5 Central Flyway states by the USFWS and state resources personnel. This year's survey indicated a population of 241,300 sandhills which is down 24% from 1983 based on comparable surveys (D. Benning pers. comm). Over 90% of the mid-continent sandhill crane population is found in the Central Platte River Valley of Nebraska during the March survey.

The 1979-83 average annual harvest has been about 4,000 birds. It does not appear that present Saskatchewan harvest regulations are having an adverse effect on the population status.

In 1984, the Saskatchewan Migratory Bird Advisory Committee recommended an increase in the daily bag and possession limits to 5 and 10 birds. The length of the season was also extended slightly to encourage recreation by Saskatchewan hunters. Due to a lack of communication of this recommendation to CWS in Ottawa the 1984 daily bag and possession will remain at 4 and 8 respectively. Season lengths have been extended to 9 days on the east side of the province from 5 days in 1983 (Appendix 2). Season length on the west side will remain at 6 days.

Table 6. Saskatchewan Sandhill Crane Harvest by Game Management Zone, 1983

ZONE	% OF HARVEST	HARVEST	SUCCESS HUNTERS	CRANES / HUNTER	HUNTER DAYS*	ZONE
1	0.0	0	0	0.0	0	1
2	0.0	0	0	0.0	0	2
3	0.0	0	0	0.0	0	3
4	0.0	0	0	0.0	0	4
5	0.0	0	0	0.0	0	5
6	12.68	376	161	2.34	196	6
7	0.0	0	0	0.0	0	7
8	0.0	0	0	0.0	0	8
9	0.0	0	0	0.0	0	9
10	61.82	1833	482	3.80	608	10
11	23.31	691	232	2.98	271	11
12	0.30	0	0	1.00	36	12
13	0.0	0	0	0.0	29	13
14	0.0	0	0	0.0	0	14
15	0.0	0	0	0.0	0	15
16	0.0	0	0	0.0	0	16
17	0.0	0	0	0.0	0	17
18	0.0	0	0	0.0	0	18
19	0.94	28	9	3.11	10	19
20	0.94	28	19	1.47	14	20
21	0.0	0	0	0.0	0	21
22	0.0	0	0	0.0	0	22
23	0.0	0	0	0.0	0	23
24	0.0	0	0	0.0	0	24
25	0.0	0	0	0.0	0	25
26	0.0	0	0	0.0	0	26
27	0.0	0	0	0.0	0	27
28	0.0	0	0	0.0	0	28
29	0.0	0	0	0.0	0	29
30	0.0	0	0	0.0	0	30
31	0.0	0	0	0.0	0	31
32	0.0	0	0	0.0	0	32
33	0.0	0	0	0.0	0	33
34	0.0	0	0	0.0	0	34
35	0.0	0	0	0.0	0	35
36	0.0	0	0	0.0	0	36
37	0.0	0	0	0.0	0	37
TOTALS						TOTALS
		100.00	2965	913	1164	TOTALS
				3.25		

* HALF DAY = HALF DAY.

OTHER WATERFOWL REGULATIONS

The 500 meter hunting restrictions on major waterfowl staging areas are set by the province. No changes in restrictions are recommended for 1984. Thackeray Lake in Wildlife Management Zone 45 will have a 500 meter restriction until November 12, 1984.

Since old GMZ 33 was reinstated as a morning only hunting area for geese in 1983, Wildlife Management Zone 69 will be open for morning goose hunting only. Agricultural cropping practices and development have created goose hunting conditions in the southeast portion of this zone similar to those in zones where morning only hunting has been traditional.

UPLAND GAME BIRDS

1983 HUNTING ACTIVITY

Compared to 1982, 1983 was a slightly better year in terms of hunter activity with an increase of 19% in hunter recreation days and 5% in active hunters (Tables 7, 8). Activity was still 10% below the 1973-1982 average. The 28,000 active upland bird hunters each spent an average of 2.1 days hunting. Activity increased for all species except ruffed grouse whose population bottomed out in 1983 (Figure 7).

The Farmlands (old Zones 7-15) continued to receive the heaviest hunting pressure (Figure 8, Table 9) with 55% of total hunter days generated there. Zone II continued to receive the heaviest upland hunting pressure with 6.1 days/mi² of native habitat. Zones 7, 8 and 9 received from 3.3 to 3.75 hunter days/mi² while Zones 12 and 13 received 2.92 and 2.97 hunting days/mi² of native range.

Of these 6 Farmland zones, only Zone 13 received less hunting pressure than in 1982.

Table 7. Saskatchewan Upland Game Bird Hunting Activity, 1973-83

Year	Active Upland Bird Hunters	Upland Bird Hunter Days	Hunter Days/ Active Hunter
1973	28,500	53,275	1.9
1974 *	21,857	37,801	1.7
1975 *	27,812	48,161	1.7
1976 *	39,035	86,525	2.2
1977 *	41,772	93,496	2.2
1978	36,766	72,378	2.0
1979	36,373	72,096	2.0
1980	36,788	75,578	2.1
1981	32,147	68,988	2.1
1982	26,884	50,382	1.9
1973-1982 Average	32,793	65,868	2.0
1983	28,266	60,146	2.1
<u>% Change</u>			
1983 from 1982	+ 5%	+ 19%	+ 10%
1983 from Average	- 14%	- 10%	+ 5%

* Erroneous data was published for these years prior to 1979 corrections.

Table 8. Saskatchewan Upland Game Bird Harvest Summary, 1983

	SASK. RESIDENT	CAN. RESIDENT	NON RESIDENT	TOTAL
SHARP-TAILED GROUSE				
KILL SUCCESSFUL HUNTERS (E OF ACTIVE)	51318	87-248	2314	51991
SUCCESSFUL HUNTERS	12251	(64-703)	862	12993
BIRDS/ACTIVE HUNTER	2.7	(12-623)	7.1	3.1
BIRDS/SUCCESSFUL HUNTER	2.2	7.1	1.1	2.2
DAYS/ACTIVE HUNTER	2.2	7.1	1.1	2.2
DAYS/SUCCESSFUL HUNTER	2.2	7.1	1.1	2.2
DAYS HUNTED	27316.4	1503.3	257.1	31391.8
HUNGARIAN PARTRIDGE				
KILL SUCCESSFUL HUNTERS (E OF ACTIVE)	52342	85-743	2878	5832
SUCCESSFUL HUNTERS	17022	(66-992)	919	17861
BIRDS/ACTIVE HUNTER	1.6	(71-868)	9.7	2.2
BIRDS/SUCCESSFUL HUNTER	1.6	9.7	1.1	1.6
DAYS/ACTIVE HUNTER	1.6	9.7	1.1	1.6
DAYS/SUCCESSFUL HUNTER	1.6	9.7	1.1	1.6
DAYS HUNTED	22800.2	1434.1	2093.8	26408.1
RUFFED GROUSE				
KILL SUCCESSFUL HUNTERS (E OF ACTIVE)	12223	91-163	105	12328
SUCCESSFUL HUNTERS	8264	(51-963)	190	8454
BIRDS/ACTIVE HUNTER	1.1	(48-853)	1.0	1.1
BIRDS/SUCCESSFUL HUNTER	1.1	1.0	1.1	1.1
DAYS/ACTIVE HUNTER	1.1	1.0	1.1	1.1
DAYS/SUCCESSFUL HUNTER	1.1	1.0	1.1	1.1
DAYS HUNTED	11001.0	246.2	598.4	11805.6
SPRUCE GROUSE				
KILL SUCCESSFUL HUNTERS (E OF ACTIVE)	3878	98-303	0	3976
SUCCESSFUL HUNTERS	1580	(45-433)	0	1580
BIRDS/ACTIVE HUNTER	3.0	(0-002)	0	3.0
BIRDS/SUCCESSFUL HUNTER	3.0	0	0	3.0
DAYS/ACTIVE HUNTER	3.0	0	0	3.0
DAYS/SUCCESSFUL HUNTER	3.0	0	0	3.0
DAYS HUNTED	1979.7	12.8	31.0	2023.5
PHEASANT				
KILL SUCCESSFUL HUNTERS (E OF ACTIVE)	15856	100-003	0	15859
SUCCESSFUL HUNTERS	4005	(63-092)	0	4005
BIRDS/ACTIVE HUNTER	63.9	(0-002)	0	63.9
BIRDS/SUCCESSFUL HUNTER	63.9	0	0	63.9
DAYS/ACTIVE HUNTER	63.9	0	0	63.9
DAYS/SUCCESSFUL HUNTER	63.9	0	0	63.9
DAYS HUNTED	9312.8	0.3	0.0	9313.1
ALL UPLAND GAME BIRDS				
KILL SUCCESSFUL HUNTERS (E OF ACTIVE)	15737	98-593	5387	12093
SUCCESSFUL HUNTERS	12449	(60-033)	1199	13648
BIRDS/ACTIVE HUNTER	3.0	(3-123)	7.1	3.1
BIRDS/SUCCESSFUL HUNTER	3.0	7.1	1.1	3.1
DAYS/ACTIVE HUNTER	3.0	7.1	1.1	3.1
DAYS/SUCCESSFUL HUNTER	3.0	7.1	1.1	3.1
DAYS HUNTED	52975.3	2747.3	4427.5	60150.1

* HALF DAY = HALF DAY.

NOTE: Pheasant Summary included in 1983.

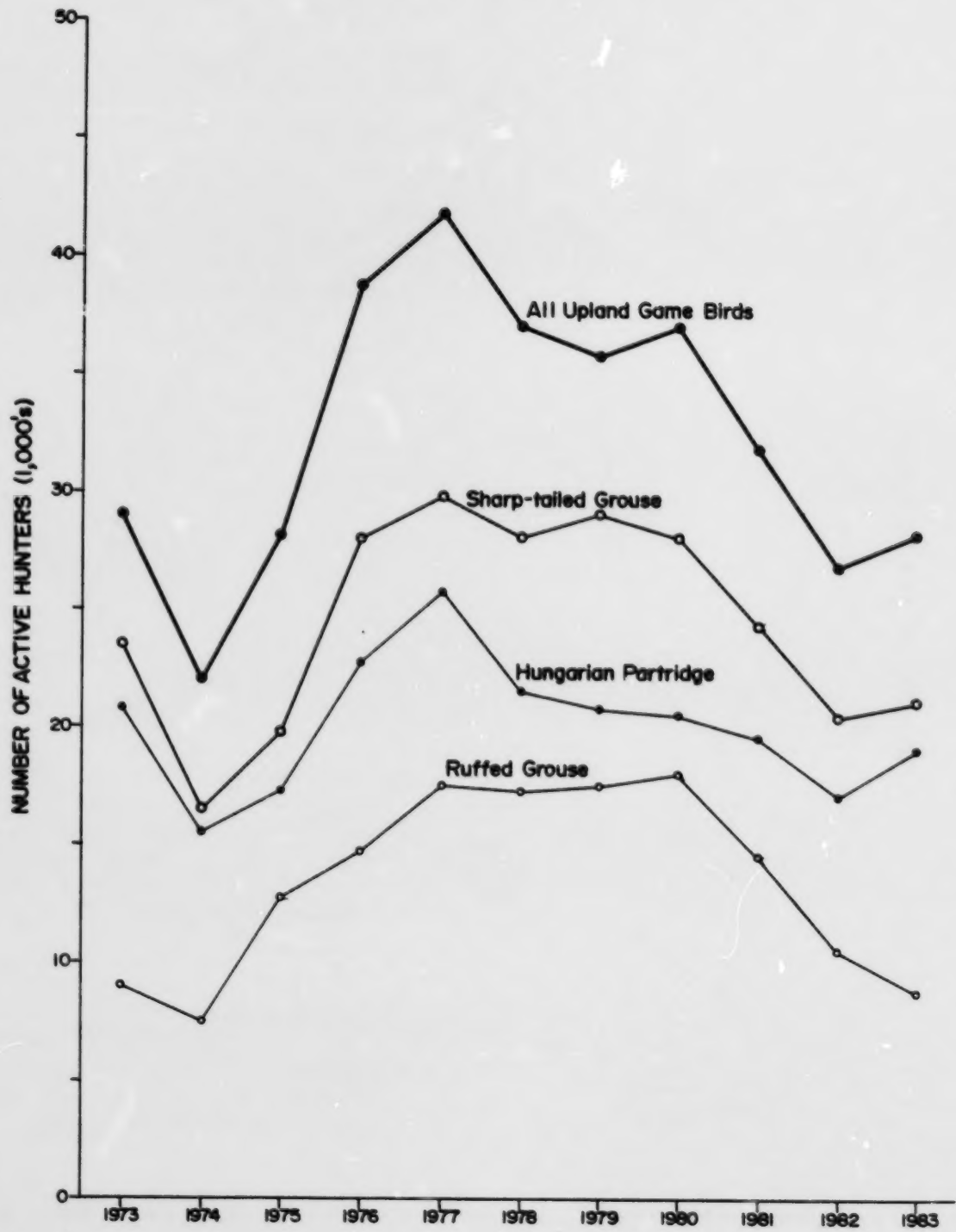


Figure 7. Upland game bird hunters active in Saskatchewan, 1973-1983.
(Active pheasant hunters included in 1983 only)

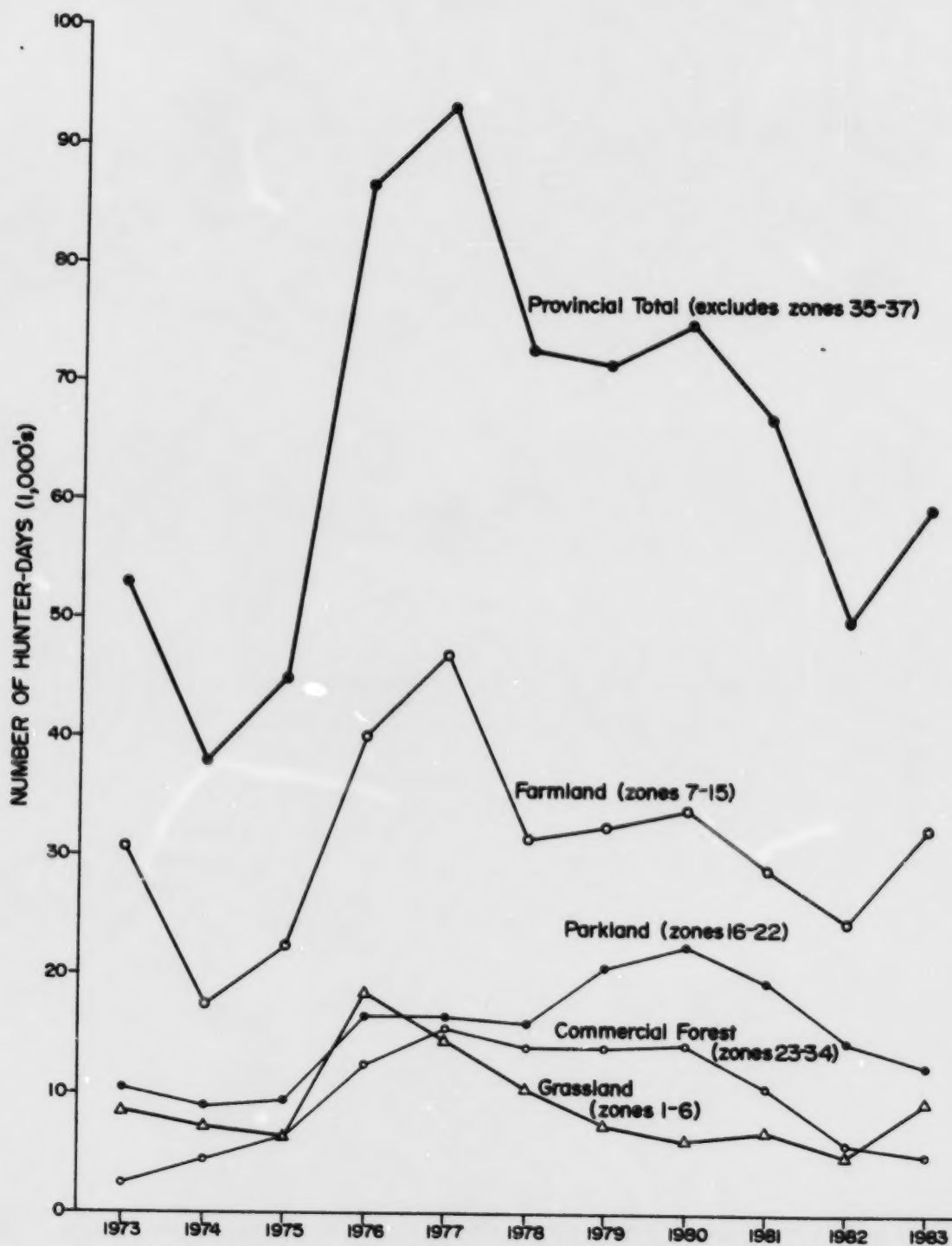


Figure 8. Upland game bird hunter-days expended in Saskatchewan, 1973-1983. Compared by Game Management Division. (Pheasant hunter-days included in 1983 only)

Table 9. Saskatchewan Upland Game Bird Hunting Activity Compared by Game Management Division, 1981-83

Game Management Division	1981			1982			1983		
	Total Hunter Days	% of Grand Total	Total Hunter Days	% of Grand Total	Total Hunter Days	% of Grand Total	Total Hunter Days	% of Grand Total	Hunter Days/Sq Mi
Grassland (21,356 sq mi 15%)	7,848	11.4	5,107	10	9,529	16	0.45		
Farmland (47,261 sq mi 33%)	29,883	43.3	24,455	49	32,661	55	0.69		
Parkland (35,202 sq mi 24%)	19,418	28.1	14,433	29	12,262	21	0.35		
Commercial Forest (excluding Zone 34) (39,880 sq mi 28%)	11,164	16.2	6,009	12	4,967	8	0.12		
GRAND TOTAL * (143,699 sq mi 100%)	68,313	99.0	50,004	100	59,419	100	0.41		

* Zone 34 and Shield (Zones 35, 36 and 37) excluded because of insignificance to recreational game bird hunting (1% of hunter days).

SHARP-TAILED GROUSE

1983 Hunting/Harvest

The 1983 provincial sharptail harvest increased by 14% from 1982 to 59,000 birds, the second lowest level since 1974 and 36% below the long term average (Tables 10, 11; Figure 9). Both the 1982 and 1983 season dates were delayed in order to reduce the harvest but better reproduction in 1983 probably allowed some increase in hunting success. Active sharptail hunters increased by 3% to 21,000 but the number of sharptails harvested per upland hunter day (1.0/day) did not change from 1982.

Although the sharptail harvest increased by 69% in the Grasslands (Zones 1-6) the number of hunter days expended in the Grasslands increased by 87% so that hunter success measured in terms of sharptails killed per hunter day actually decreased from 1.1 in 1982 to 0.97 in 1983 (Table 12).

The sharptail harvest in the Farmland (Zones 7-15) increased to 34,700 in 1983 but hunter success fell to 1.06 birds per hunter day from 1.23 in 1982. Harvest and hunter success in the Parkland and Commercial Forest remained fairly constant from 1982 levels.

The five major sharp-tailed grouse hunting zones changed rank in 1983 with Zone 12 out ranking Zone 16. All five zones were from the Farmland ecological division (Table 13, Figure 10). Zone 11 continued to receive the heaviest harvest with a reported kill of 6.5 birds/mi² of native habitat. The harvest in Zone 11 increased by 40% from 1982 while the Zone 7 harvest increased by 56%. Although the harvest in Zone 13 dropped by 25%, it still ranked 5th in terms of harvest per mi² of native habitat. Sharptails were most heavily harvested in the opening week of the Grassland and Farmland seasons (Figure 11).

Table 10. Sharp-tailed Grouse Hunting Data for Saskatchewan, 1972-1983

Year	Hunting Level			Hunting Success		
	Active Sharptail Hunters	Total All Upland Bird Hunter Days	Hunter Days/ Active Hunter	Sharptail Harvest	Sharptails Harvested/ Active Sharptail Hunter	Sharptails Harvested/ Total Upland Hunter Days
1972	28,575	56,534	2.0	107,813	3.8	1.9
1973	23,498	53,275	2.3	88,178	3.8	1.7
1974 *	16,041	37,801	2.4	48,808	3.0	1.2
1975 *	19,746	48,161	2.4	60,428	3.1	1.1
1976 *	27,976	86,525	3.1	130,784	4.7	1.5
1977 *	29,794	93,496	3.1	107,003	3.6	1.1
1978	27,577	72,380	2.6	104,497	3.8	1.4
1979	28,221	72,096	2.6	126,824	4.5	1.8
1980	27,949	75,578	2.7	108,455	3.9	1.4
1981	24,461	68,988	2.8	82,745	3.4	1.2
1982 *	20,375	50,382	2.5	51,741	2.5 *	1.0
1972-1982 Average	24,928	65,020	2.6	92,480	3.6	1.4
1983	21,068	60,146 **	2.9	58,823	2.8	1.0
<u>% Change</u>						
1983 from 1982	+ 3%	+ 19%	+ 16%	+ 14%	+ 12%	No Change
1983 from Average	- 15%	- 8%	+ 11%	- 36%	- 22%	- 29%

* Erroneous data was published for these years prior to 1979 and for 1982

** 1983 total upland bird hunter days includes pheasant hunter days

Table 11. Sharp-tailed Grouse Harvest and Hunting Pressure by Game Management Zone, 1983

GMZ	TOTAL KILL	% OF HARVEST	ACTIVE HUNTERS	BIRDS PER SQ. MILE	HUNTER DAYS	TOTAL HUNTER DAYS	SPECIES HUNTER DAYS	GMZ	TOTAL KILL	% OF HARVEST	ACTIVE HUNTERS	BIRDS PER SQ. MILE	HUNTER DAYS	TOTAL HUNTER DAYS	SPECIES HUNTER DAYS
1	856	1.46	346	0.324	0.67	572	342	20	593	1.01	521	0.176	1.62	960	525
2	1318	2.24	511	0.279	1.58	2077	509	21	1070	1.82	916	0.167	1.54	1643	846
3	687	1.17	264	0.178	0.94	649	295	22	2562	4.36	1425	0.276	0.94	2397	1421
4	204	0.35	145	0.118	1.24	253	104	23	742	1.26	507	0.145	1.56	1160	593
5	3028	5.15	1190	1.048	0.67	2042	1262	24	106	0.18	58	0.053	1.14	121	62
6	3185	5.41	1761	0.577	1.24	3936	1754	25	69	0.12	53	0.047	1.49	103	32
7	7052	11.94	2255	1.017	0.81	5646	3214	26	29	0.05	55	0.017	4.86	141	41
8	4016	6.83	1939	0.577	1.58	6345	2059	27	0	0.00	0	0.000	0.00	39	0
9	6377	10.84	2163	1.046	0.75	4804	2717	28	446	0.76	418	0.093	2.98	1331	520
10	2183	3.71	1203	0.474	1.15	2502	1481	29	0	0.00	29	0.000	0.00	145	19
11	3360	5.71	1351	1.712	0.94	3151	1762	30	374	0.64	350	0.081	2.46	920	381
12	4491	7.63	2024	0.792	0.84	3773	2217	31	0	0.00	39	0.000	0.00	271	24
13	5815	9.55	2562	0.809	0.86	4850	2993	32	216	0.37	155	0.061	2.10	453	182
14	1181	2.01	539	0.339	0.96	1129	588	33	315	0.54	114	0.093	0.90	283	182
15	430	0.73	323	0.137	0.96	411	239	34	0	0.00	29	0.000	0.00	150	14
16	2879	4.84	949	0.578	0.73	2042	1418	35	193	0.33	77	0.056	2.13	411	149
17	1667	2.83	676	0.633	0.96	1605	962	36	58	0.10	19	0.002	2.41	140	10
18	1311	2.23	702	0.414	0.97	1268	912	37	0	0.00	5	0.000	0.00	28	28
19	2210	3.76	1194	0.409	1.04	2297	1549								
									58823	100.00	26877	0.237	1.02	60156	31391

* HUNTER DAYS ARE BASED ON ALL UPLAND HUNTING. HALF DAY = HALF DAY.
REFER TO APPENDIX A FOR SQUARE MILES PER GMZ.

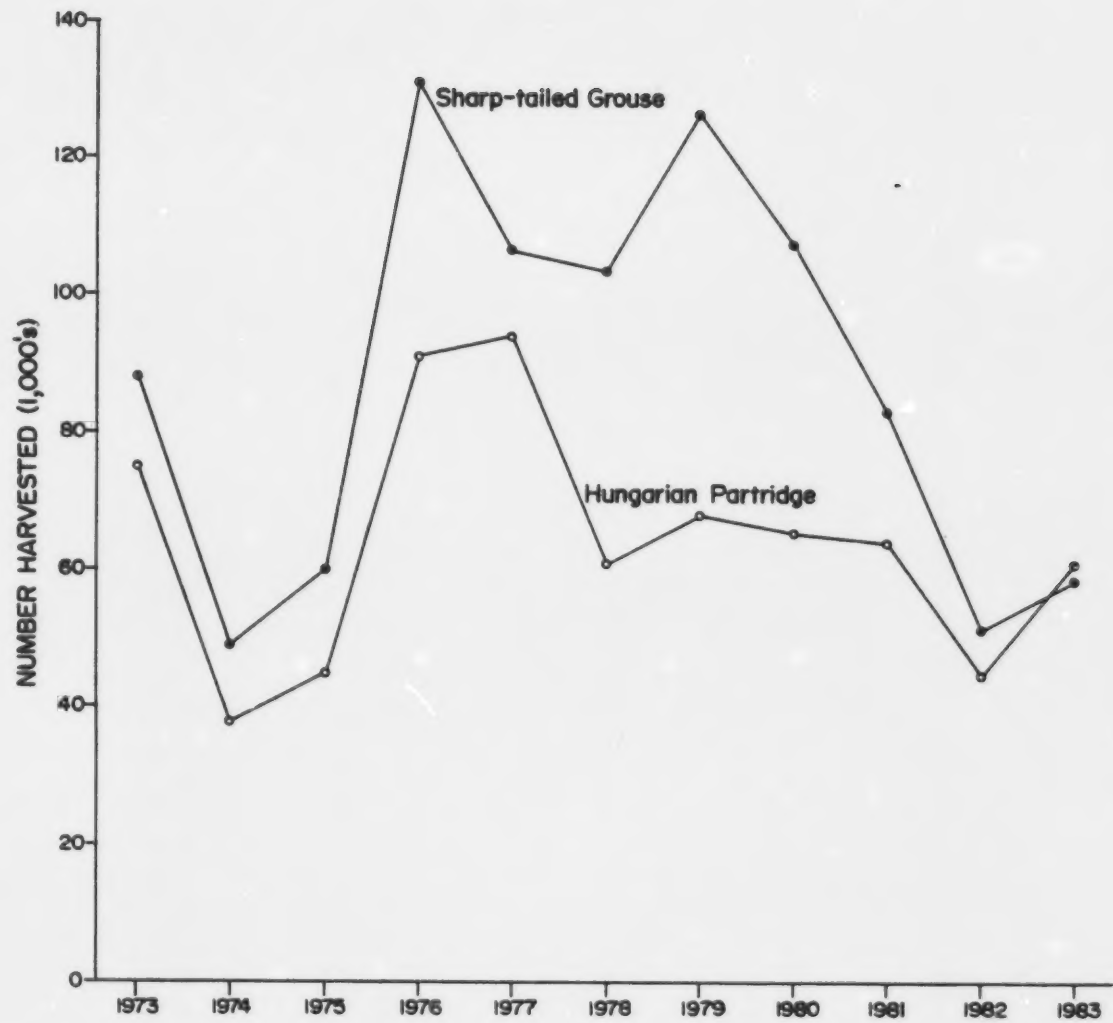


Figure 9. Saskatchewan Sharp-tailed Grouse and Hungarian Partridge harvest, 1973-1983.

Table 12. Sharp-tailed Grouse Hunting Data for Saskatchewan by Game Management Divisions, 1983

	Grassland Zones 1-6	Farmland Zones 7-15	Parkland Zones 16-22	Commercial Forest * Zones 23-33	Province **
Sharptail Harvest (% of Total)	9,278 (16%)	34,705 (59%)	12,292 (21%)	2,297 (4%)	58,572 (100%)
Harvest Pressure (Sharptail kill/ sq mi)	0.43	0.73	0.35	0.06	0.41
All Upland Bird Hunter Days (% of Total)	9,529 (16%)	32,661 (55%)	12,262 (21%)	4,967 (8%)	59,419 (100%)
Hunting Pressure (hunter days/sq mi)	0.45	0.69	0.35	0.13	0.41
Hunter Success (Sharptail kill/ hunter day)	0.97	1.06	1.00	0.46	0.99

* Zone 34 excluded because of insignificance to sharp-tailed grouse hunting.

** Zone 34 and the Shield Division excluded because of insignificance to sharp-tailed grouse hunting.

Table 13. Most Important Sharp-tailed Grouse Harvest Areas in Saskatchewan, 1982 and 1983

Rank *	1982				1983			
	Game Mgmt. Zone	Sharp-tail Harvest/ Sq mi Native Habitat	Sharp-tail Harvest/ Sq mi Gross Area	% of Provincial Harvest	Game Mgmt. Zone	Sharp-tail Harvest/ Sq mi Native Habitat	Sharp-tail Harvest/ Sq mi Gross Area	% of Provincial Harvest
1 st	11	4.6	1.2	5	11	6.5	1.7	5.7
2 nd	13	4.6	1.1	15	9	4.5	1.0	10.8
3 rd	9	3.5	0.8	10	7	4.1	1.0	12.0
4 th	7	2.6	0.7	9	12	3.5	0.8	7.6
5 th	16	1.9	0.6	6	13	3.4	0.8	9.6
Total	Leading 5 Zones	3.3	0.8	45	Leading 5 Zones	4.1	1.0	45.7

* Ranked according to harvest density, based on native habitat area.

NOTE: assumes no decrease in native habitat in these zones since 1982.

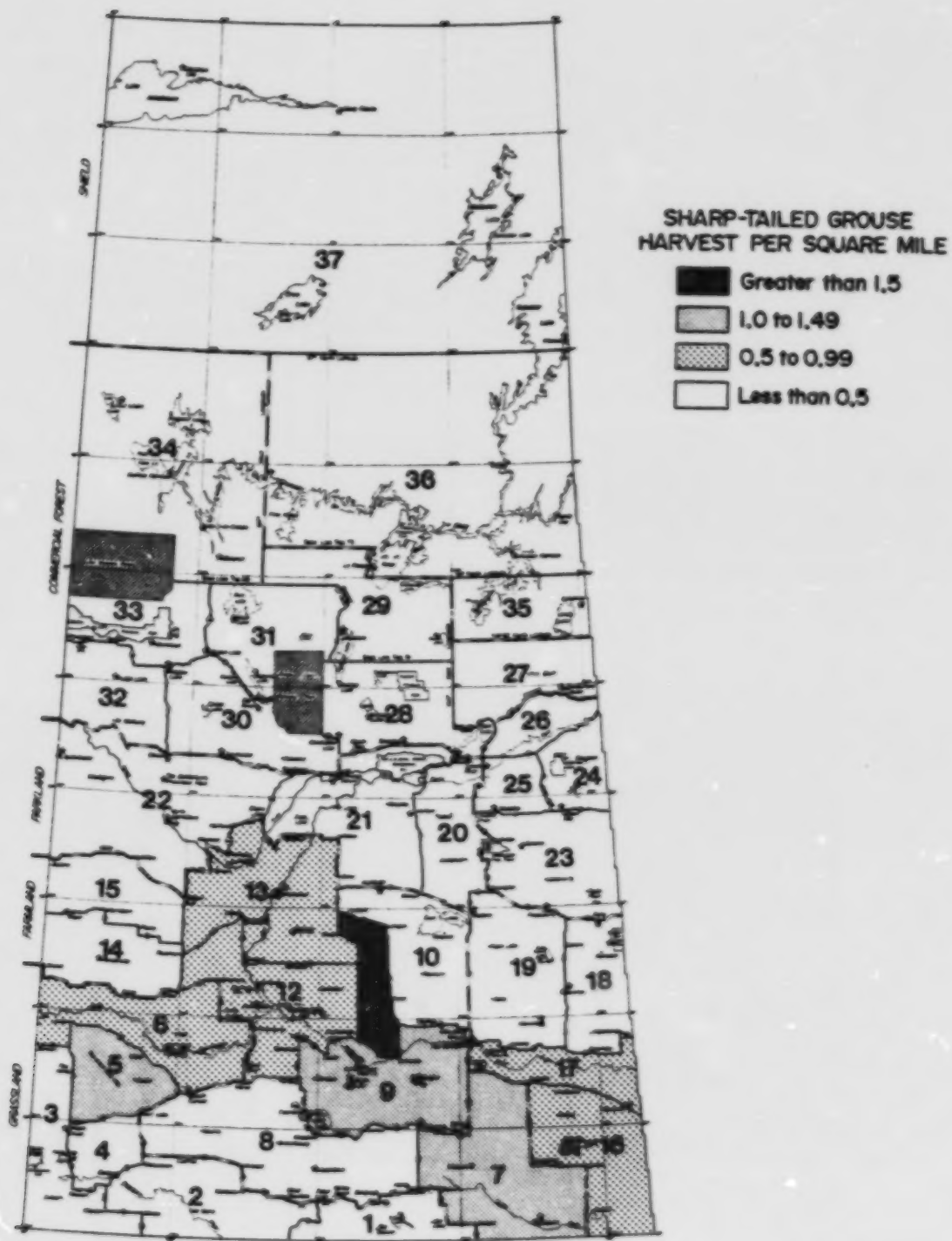


Figure 10. Saskatchewan Sharp-tailed Grouse harvest density, 1983.

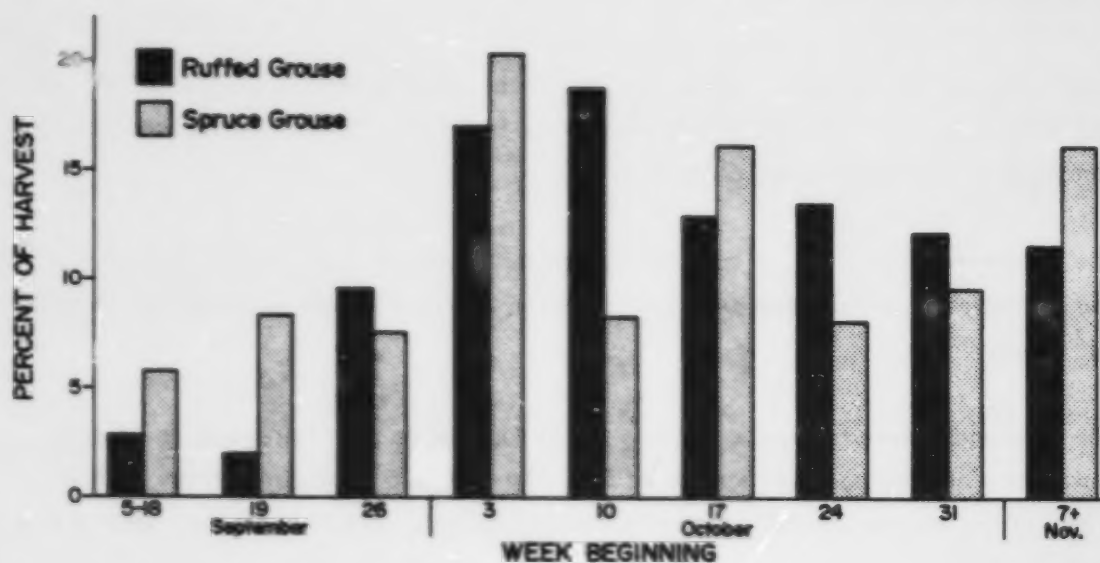
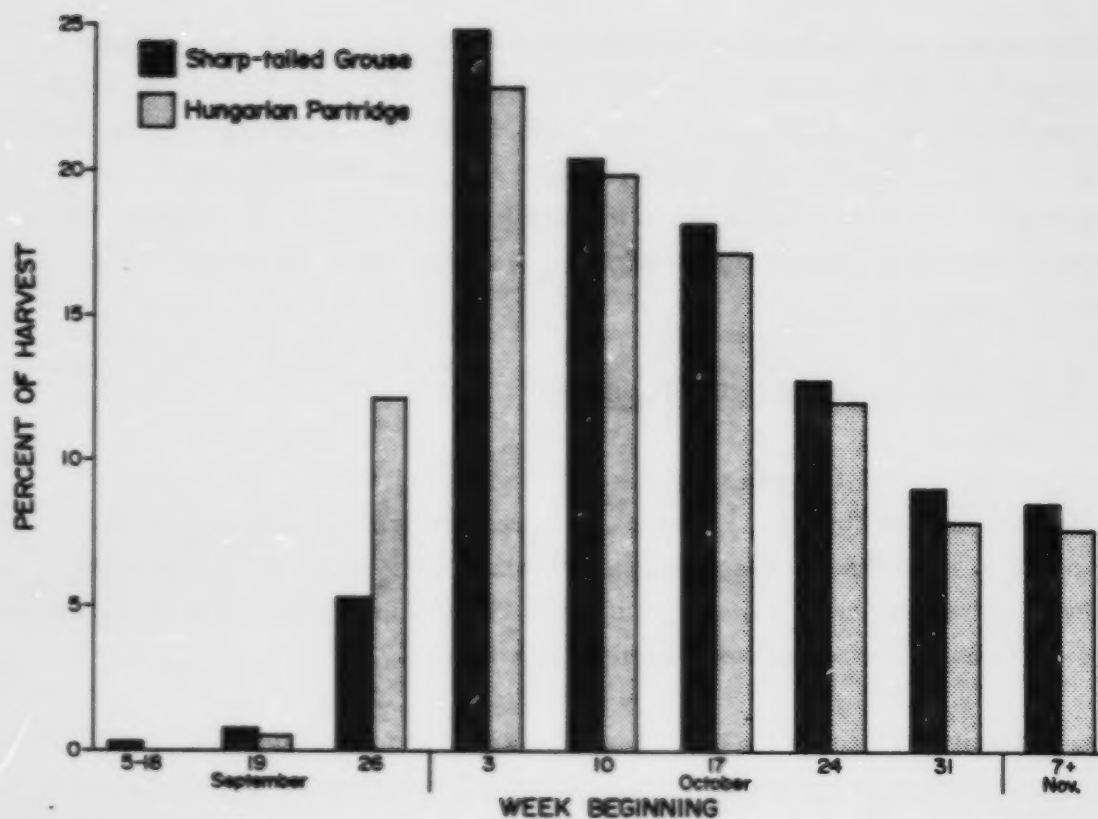


Figure 11. Saskatchewan 1983 upland game bird harvest by weekly intervals.
(Includes Canadian Residents and Non-resident harvest)

1983 Sharp-tailed Grouse Reproduction

Sharptail reproduction, based on the young to adult ratio in a sample of the hunter harvest, slipped 26% provincially in 1983 to 1.45 from 1.96 in 1982 (Table 14, Figure 12, Appendix 8). The Grasslands were the only ecological division showing an increase in reproduction in 1983 (26% over 1982 levels) (13% above the 1975-82 average). The provincial index in 1983 was 5% above the 1975-82 average of 1.38 young/adult. The Commercial Forest index of 0.58 young/adult is suspect due to the sample size of less than 50 wings.

1984 Sharp-tailed Grouse Breeding Population

The provincial population index for breeding sharp-tailed grouse is 3.5 breeding males/mi² for 1984 (Table 15, Figure 13), an increase of 10% over 1983 levels for comparable survey areas. The Grassland, Farmland and Parkland surveys all reflect the provincial trend but the Bertwell, Dorintosh and Fairholme surveys in the Forest Fringe showed no change or reductions in spring populations.

The status of sharptails in the Great Sandhills continues to be of concern. The Northern Fringe Sandhills survey indicated no change (-3%) from 1983 while the Sceptre South survey showed a slight increase of 14%. The northern portion of the Sandhills continues to support one of the highest densities of sharptails in the province (6.2 males/mi²), but is judged to be below its potential.

Populations in the Farmland zones showed a slight trend upward as a result of a doubling of the count at Mortlach and a 60% increase at Duperow. Densities increased in 4 of 9 comparable survey areas and dropped in 5.

The Goodwater population in Wildlife Management Zone 15 continued to recover (up 36%) and ranks first in density for survey areas in the province with 9.44 males/mi² in an 18 mi² block.

The Parklands showed a similar pattern to the Farmlands with 4 areas up and 4 areas down and a net comparable increase of 9%. The Evesham population on the southern fringe of the Manito Sandhills showed a notable increase to 4.75 males/mi² from 3.0 in 1983.

Table 14. Sharp-tailed Grouse Reproduction* in Saskatchewan, 1983 vs Historic
(Juvenile/Adult in Harvest)

Game Management Division	1975-82			% Change	
	1981	1982	Average	1983	1983 from 1982 1983 from Average
Grassland	0.62	0.85	0.95	1.07	+ 26 + 13
Farmland	0.81	2.19	1.53	1.62	- 26 + 6
Parkland	0.98	2.44	1.56	1.36	- 44 - 13
Commercial Forest	0.62	2.50	2.22	0.58 ***	- 77 *** - 74 ***
PROVINCE	0.77	1.96	1.38 1.55 **	1.45	- 26 + 5 - 6 **

* Based on sample of wings from hunter-killed birds

** 1957-1982 Average

*** Sample less than 50 wings

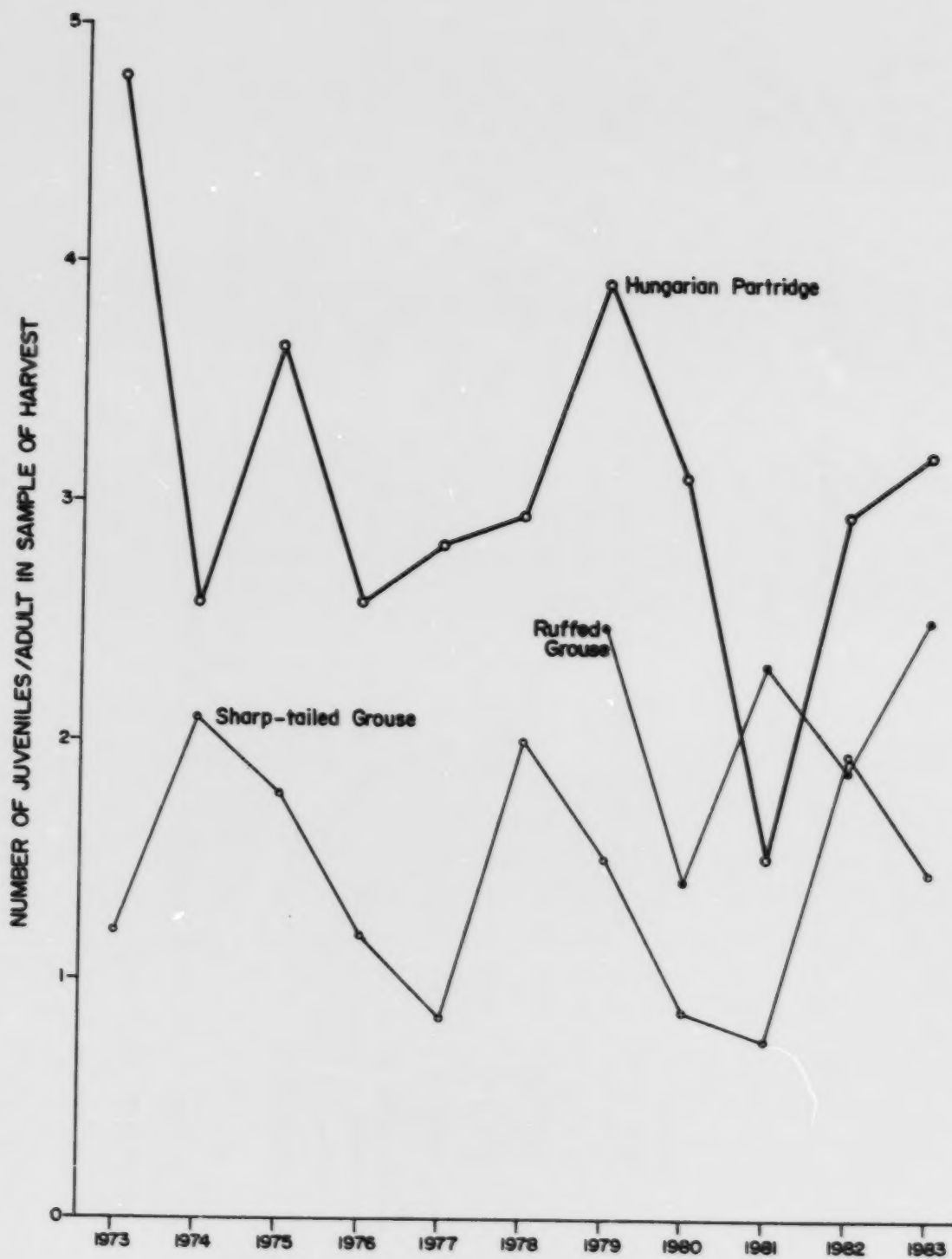


Figure 12. Saskatchewan upland game bird fall age ratios (reproduction index), 1973-1983.

Table 15. Saskatchewan Sharp-tailed Grouse Breeding Population Surveys, Spring 1984

Wildlife Management Zone (1984)	Survey Area	Area Surveyed (Sq mi)	Number of Active Dancing Grounds	Breeding Males/Sq Mi	
				Number	% Change from 1983*
1	Amulet	20	5	2.85	- 38 (1981)
4	Meyronne	16	3	3.12	- 6
9	Webb	20	6	4.00	+ 73
10	Sceptre South	20	5	3.25	+ 14
10	Great Sandhills (Northern Fringe)	19	10	6.21	- 3
13+14	Sask. Landing	27.5	6	1.71	0
GRASSLAND	(6 survey areas)	122.5	35	3.40	+ 11
15	Goodwater	18	12	9.44	+ 36
17	Indian Head South	16	5	3.18	- 6
19	Mortlach	20	6	7.65	+ 138
20	Bethune	28	4	2.29	+ 3
21	Gibbs	16	4	4.75	- 4
24	Coteau	25	8	2.20	- 27
26	Alsask	19	7	4.68	- 17
28	Duperow	14	10	8.21	+ 60
28	Asquith	36	4	1.22	- 29
FARMLAND	(9 survey areas)	192	60	4.25	+ 17
32	Carnduff	16	6	5.50	- 10
33	Tecumseh	20	11	6.45	+ 21
34	Moosomin South	27	9	3.15	0
37	Calder	13.5	6	4.44	- 24
38	Fort Block	24	9	3.67	+ 19
39	Goodspirit	16	4	1.88	N/A
40	Quill Lakes	16	3	2.68	N/A
41	Peterson	24	2	1.50	- 21
43	Donsland	11.5	3	4.00	+ 14
45	N. Battleford- Aroma Lake	18	4	2.94	- 22
46	Evesham	20	5	4.75	+ 58
PARKLAND	(11 survey areas)	206	62	3.32	+ 9
49	Bertwell	11.5	5	4.17	- 22
55	Dorintosh	20	1	0.60	0
FOREST FRINGE	(2 survey areas)	31.5	6	1.90	- 19
67	Fairholme	19.75	4	1.82	- 30
PROVINCE	(29 survey areas)	544.25	161	3.50	+ 10

* Population change from 1983 based only on comparable dancing grounds surveyed both years (1983 + 1984).

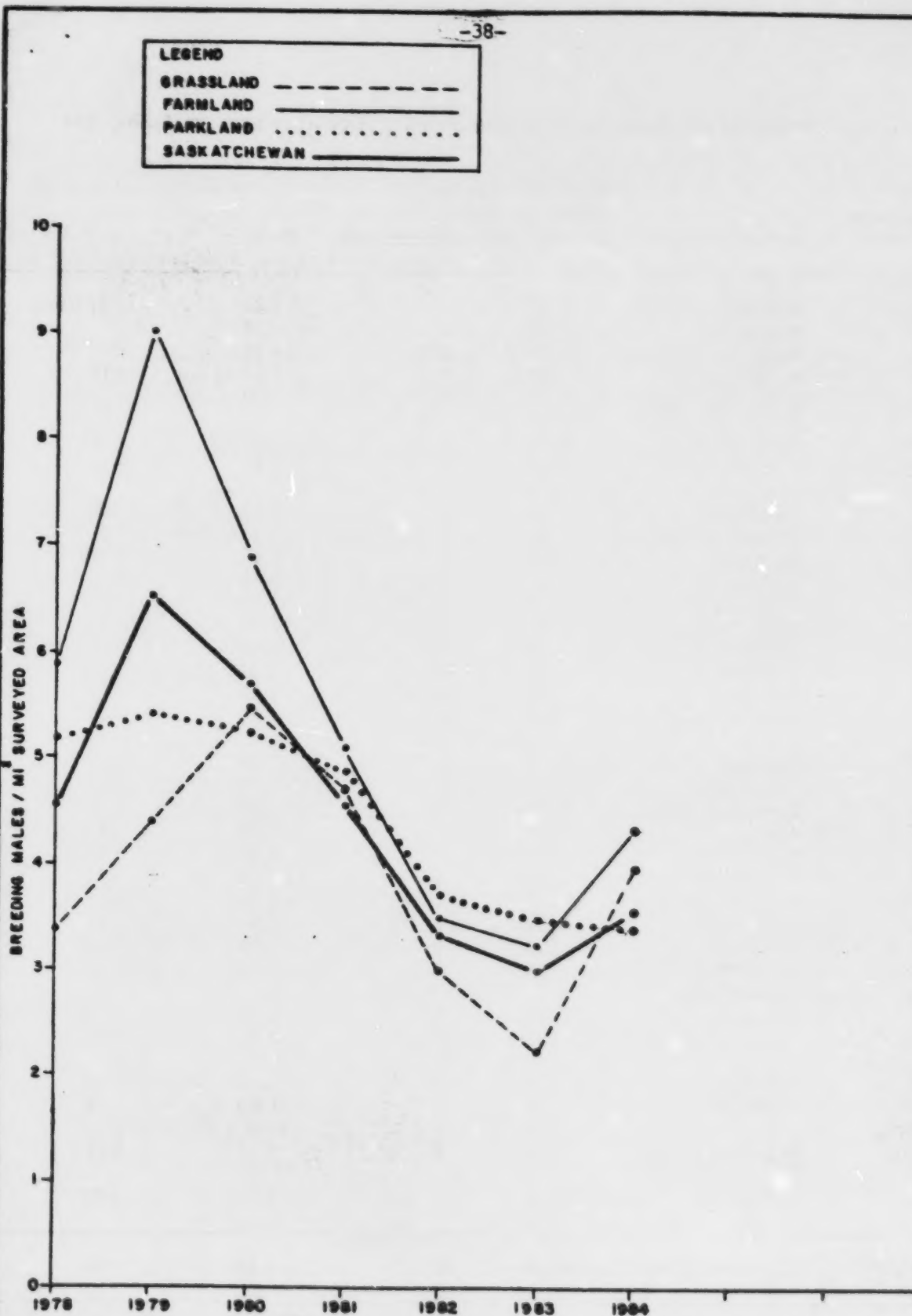


Fig.13 Sharp-tailed grouse breeding population trends, 1978- 1984

NOTE: 1984 Survey totals not directly comparable to 1983 due to game management zone changes (See Table 15)

Discussion - Sharp-tailed Grouse

The provincial sharptail decline appears to have halted in 1983 and hopefully sharptails are on the road to recovery. Of continued concern are the population situations in the Great Sandhills and the Farmlands. Since reproduction in 1983 showed an increase above the 1975-82 average, we feel these populations can rebuild.

In the Grasslands hunter kill is thought to merely replace other mortality. Harvest levels, therefore, should not theoretically impact detrimentally upon the population.

In the Farmlands we are beginning to suspect that hunting pressure may be having some impact on the sharptail's capacity to rebound from low populations. Continued habitat loss through breaking of native range must also be having a detrimental affect. With nearly 60% of the harvest coming from Zones 7-15 in 1983 it may be difficult to sustain these harvest levels considering habitat loss. The new game management zones will enable intensified sharp-tailed grouse management in the future.

1984 Sharp-tailed Grouse Hunting Regulations

Zones 1-8, 15-30 including Elbow, Estevan-Cambria, Lomond #3 (at Maxim) and Last Mountain Lake Wildlife Management Units	Oct 1 - Nov 10	5 daily 10 possession
Zones 9-14	Oct 1 - Nov 10	3 daily 6 possession
Zones 31-47	Sept 24 - Nov 10	5 daily 10 possession
Zones 48-76 including Meadow Lake, Nipawin and Lac la Ronge Provincial Parks; Fort a la Corne Wildlife Management Unit and Bronson Recreation Site	Sept 10 - Dec 1	5 daily 10 possession

* Non-residents of Canada may not hunt sharp-tailed grouse in Zones 9-14 and 25-28.

Zones 9 & 10 populations (old Zone 5) do not appear to have recovered to significant levels to allow any change in season length or the reduced bag limit. Similarly, no change in season length or bag limit is recommended for Zones 11, 12, 13, 14 (old Zone 6).

Non-resident hunting should continue to be restricted from Zones 9-14 and 25-28 (old Zones 5, 6, 14 and 15). An Oct 1 season opening in the Grassland Zones 1-14 and the Farmland Zones 15-30 would be consistent with 1983 season dates.

No changes are recommended in sharptail hunting in the Parkland Zones 31-47, the Forest Fringe Zones 48-55, the Forest Zones 56-73 and the Northern Shield Zones 74-76.

Summary - Sharp-tailed Grouse

The increase in the 1983 reproductive index in the Grasslands and the 10% increase in the spring breeding population are reason for cautious optimism for the sharp-tailed grouse resource. The winter of 1983-84 was relatively mild except for the brief cold snap prior to Christmas.

With the change in wildlife management zones for 1984, no drastic changes are proposed for the sharp-tailed grouse seasons. Populations in the Sandhills and Farmlands in particular should be monitored closely.

Sharptail hunting in the Forest Fringe, Forest and Shield will be tied to those for other grouse species to eliminate unnecessary complexity.

HUNGARIAN PARTRIDGE

For the first time in the past decade, the reported Hungarian partridge harvest surpassed the sharp-tailed grouse harvest (Figure 9). About 61,000 partridge were harvested in the fall of 1983 which is only 6% below the 1972-82 average (Tables 16, 17). The number of active partridge hunters increased 11% to 19,000 and they harvested 3.2 birds per active hunter which is equivalent to the 11 year average. Partridge hunters experienced 18% better success per day than in 1982.

Harvest pressure in terms of birds harvested/mi² doubled in the Grasslands to 0.64; increased slightly in the Farmlands and remained the same in the Parklands (Table 18). The Farmlands continued to account for a high proportion of the total harvest (67% compared to 69% in 1982). Hunter success (harvest per hunter day) remained better in the Grasslands with 1.44 birds per hunter day (Table 18).

The 1983 ranking of the top 5 partridge harvest zones changed from 1982. Zones 11 and 12 were still 1st and 2nd but Zone 9 rose to rank 3rd from 5th spot in 1982. Zones 8 and 7 were 4th and 5th compared to Zones 14 and 9 in 1982. Zone 13 which placed 3rd with 3.7 birds harvested per sq mile of native habitat in 1982 did not rank in the top 5 in 1983 (Table 19, Figure 14).

1983 Hungarian Partridge Reproduction

Provincially the 1983 reproduction index based on samples from the harvest was 3.20 young/adult which is up 7% from the 1982 index of 3.0 (Table 20, Appendix 9). The Grassland index, however, dropped about 50% to 2.38 from the 5.0 high in 1982. The 1983 Farmland index of 3.45 is slightly above the 1975-82 average of 3.2 young/adult and up about 19% from 1982.

1984 Hungarian Partridge Breeding Population

Spring surveys of abandoned farmsteads show a provincial index of 0.43 partridge per farmstead (Table 21) which is down 28% for comparable areas surveyed in 1983. Since the

Table 16. Hungarian Partridge Hunting Data for Saskatchewan, * 1972 - 1983

Year	Hunting Level			Hunting Success		
	Active Hungarian Partridge Hunters	Total Upland Bird Hunter Days Zones 1-22	Hunter Days/Active Hunter	Hungarian Partridge Harvest	Harvest/Active Hunter	Harvest/Upland Hunter Day
1972	23,360	49,692	2.1	77,093	3.3	1.55
1973	20,741	50,827	2.5	74,668	3.6	1.47
1974 **	15,276	33,722	2.2	33,608	2.2	1.00
1975 **	17,356	39,353	2.3	45,125	2.6	1.15
1976 **	22,835	73,458	3.2	90,897	4.0	1.24
1977 **	25,535	78,289	3.1	93,616	3.7	1.20
1978	21,320	58,514	2.7	60,585	2.8	1.04
1979	21,041	59,801	2.8	69,127	3.3	1.16
1980	20,698	61,856	3.0	66,349	3.2	1.07
1981	19,617	57,149	2.9	64,349	3.3	1.13
1982	17,056	43,995	2.6	41,743	2.4	0.95
1972-1982 Average	20,440	55,151	2.7	65,196	3.2	1.18
1983	19,014	54,452	2.9	61,073	3.2	1.12
% Change						
1983 from 1982	+ 11%	+ 24%	+ 11%	+ 46%	+ 33%	+ 18%
1983 from Average	- 7%	- 1%	+ 7%	- 6%	No Change	- 5%

* Commercial Forest and Shield Divisions excluded because of insignificance to Hungarian partridge hunting. (No open season).
 ** Erroneous data was published for these years prior to 1979.

Table 17. Hungarian Partridge Harvest and Hunting Pressure by Game Management Zone, 1983

GMZ	TOTAL KILL	% OF HARVEST	% OF ACTIVE HUNTERS	BIRDS PER SQ. MILE	HUNTER DAYS*	TOTAL HUNTER DAYS*	SPECIES HUNTER DAYS	GMZ	TOTAL KILL	% OF HARVEST	% OF ACTIVE HUNTERS	BIRDS PER SQ. MILE	HUNTER DAYS*	TOTAL HUNTER DAYS*	SPECIES HUNTER DAYS
1	735	1.20	322	0.279	0.78	572	263	20	150	0.25	319	0.045	6.40	960	305
2	2326	3.81	675	0.492	0.89	2077	598	21	918	1.50	613	0.144	1.79	1643	545
3	1398	2.29	296	0.363	0.46	649	295	22	788	1.29	749	0.085	3.04	2397	669
4	271	0.44	165	0.157	0.93	253	121	23	0	0.00	0	0.000	0.00	1160	0
5	3901	6.39	1228	1.350	0.52	2042	1161	24	0	0.00	0	0.000	0.00	121	0
6	5076	8.31	1950	0.920	0.78	3936	1988	25	0	0.00	0	0.000	0.00	103	0
7	5948	9.74	2022	0.857	0.96	5696	2532	26	0	0.00	0	0.000	0.00	141	0
8	8086	13.24	2491	0.961	0.78	6345	3080	27	0	0.00	0	0.000	0.00	39	0
9	6887	11.28	2405	1.129	0.70	4804	2721	28	0	0.00	0	0.000	0.00	1331	0
10	1819	2.98	1134	0.395	1.38	2502	1228	29	0	0.00	0	0.000	0.00	145	0
11	4509	7.38	1486	2.297	0.70	3151	1796	30	0	0.00	0	0.000	0.00	920	0
12	6875	11.26	2256	1.213	0.55	3773	2350	31	0	0.00	0	0.000	0.00	271	0
13	4768	7.81	2340	0.687	1.02	4850	2641	32	0	0.00	0	0.000	0.00	453	0
14	1751	2.87	607	0.502	0.64	1129	681	33	0	0.00	0	0.000	0.00	283	0
15	375	0.61	292	0.119	1.10	411	230	34	0	0.00	0	0.000	0.00	150	0
16	1907	3.12	779	0.383	1.10	2092	1053	35	0	0.00	0	0.000	0.00	411	0
17	703	1.15	528	0.267	2.28	1605	605	36	0	0.00	0	0.000	0.00	140	0
18	756	1.24	512	0.239	1.68	1268	536	37	0	0.00	0	0.000	0.00	28	0
19	1127	1.85	841	0.209	2.04	2297	1011								
									61075	190.90	25210	0.247	0.98	60149	26409

* HUNTER DAYS ARE BASED ON ALL UPLAND HUNTING. HALF DAY = HALF DAY.
REFER TO APPENDIX A FOR SQUARE MILES PER GMZ.

Table 18. Hungarian Partridge Hunting Data for Saskatchewan
by Game Management Divisions, 1983

	Grassland Zones 1-6	Farmland Zones 7-15	Parkland Zones 16-22	Province *
Harvest (% of Total)	13,707 (22%)	41,018 (67%)	6,349 (10%)	61,074 (100%)
Harvest Pressure (kill/sq mi)	0.64	0.87	0.18	0.59
Upland Bird Hunter Days (% of Total)	9,529 (17.5%)	32,661 (60%)	12,262 (22.5%)	54,452 (100%)
Hunting Pressure (hunter days/ sq mi)	0.45	0.69	0.35	0.52
Hunter Success (kill/hunter day)	1.44	1.26	.52	1.12

* Commercial Forest and Shield Divisions excluded; Hungarian partridge are essentially absent from these areas and no hunting is permitted there.

Table 19. Most Important Hungarian Partridge Harvest Areas in Saskatchewan, 1982 and 1983

Rank •	Game Mgmt. Zone	1982				1983			
		Kill/ sq mi Native Habitat	Kill/ sq mi Gross Area	% of Provincial Harvest	Game Mgmt. Zone	Kill/ sq mi Native Habitat	Kill/ sq mi Gross Area	% of Provincial Harvest	
1 st	11	6.1	1.6	8	11	8.7	2.3	7.4	
2 nd	12	3.8	0.9	12	12	5.3	1.2	11.3	
3 rd	13	3.7	0.9	15	9	4.8	1.1	11.3	
4 th	14	2.9	0.6	5	8	4.8	1.0	13.2	
5 th	9	2.6	0.6	9	7	3.5	0.9	9.7	
Total	Leading 5 Zones	3.6	0.8	49	Leading 5 Zones	4.9	1.1	52.9	

* Ranked according to harvest density, based on native habitat area.

NOTE: 1983 data assumes no reduction in native habitat from 1982.

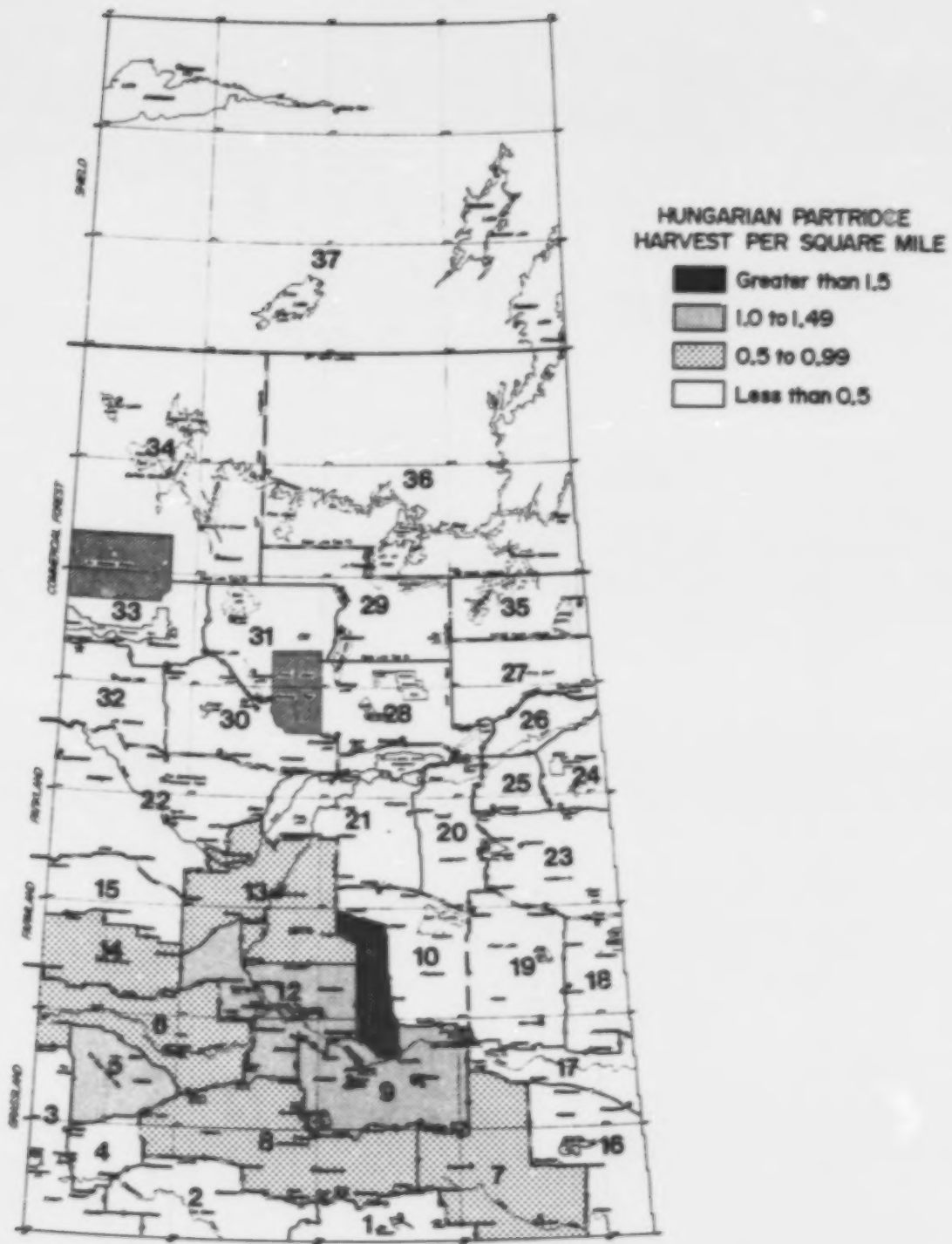


Figure 14. Saskatchewan Hungarian Partridge harvest density, 1983.

Table 20. Hungarian Partridge Reproduction* in Saskatchewan, 1983 vs Historic
(Juvenile/Adult in Harvest)

Game Management Division	% Change				
	1981	1982	1975-82 Average	1983	1983 from 1982 1983 from Average
Grassland	1.4	5.0	2.8	2.37	- 53 - 15
Farmland	1.5	2.9	3.2	3.45	+ 19 + 8
Parkland	—	—	—	6.00**	— —
PROVINCE	1.5	3.0	2.9 3.0***	3.20	+ 7 + 10 + 7 ***

* Based on sample of wings from hunter-killed birds.

** Sample size less than 50 wings.

*** 1957-82 Average

Table 21. Hungarian Partridge Breeding Population Survey, Spring 1984

Wildlife Management Zone (1984)	Survey Area	Number of Farmsteads Surveyed	Pairs/Farmstead	
			Number	% Change from 1983
4	Assiniboia-Swift Current	24	0.52	
5	Assiniboia-Swift Current	3	0.67	
5	Dun Cairn Dam	10	1.90	
10	Leader	4	0.50	
11	Leader	5	1.00	
13	Sask. Landing	10	0.80	
14	Lacadena	11	0.73	
GRASSLAND	(7 survey areas)	67	0.84	- 16
15	Goodwater-Midale	20	0.35	
18	Drinkwater	9	0.00	
20	Drinkwater	1	0.00	
20	Fort Qu'Appelle	3	0.33	
21	Last Mountain Lake	20	0.65	
23	Grainland	10	0.80	
23	Danielson	10	1.10	
23	Craik	10	0.50	
25	Kindersley	15	0.53	
26	Macklin	7	0.28	
27	Macklin	4	0.25	
28	Duperow	15	0.33	
30	Blackstrap-Bradwell	10	0.00	
30	Langham-Dalmeny	8	0.38	
FARMLAND	(14 survey areas)	142	0.45	- 33
36	Fort Qu'Appelle	12	0.17	
38	Fort Qu'Appelle	5	0.00	
38	Wynyard	15	0.20	
44	North Battleford	5	0.20	
45	Wolfe-Aroma Lake	20	0.00	
46	Macklin	4	0.00	
47	North Battleford	5	0.00	
PARKLAND	(7 survey areas)	66	0.09	0
PROVINCE	(28 survey areas)	275	0.45	- 25

1983 reproduction index was up about 7% provincially, this is somewhat surprising. However, the Grassland reproduction index did show a decrease of 53%, therefore the spring 1984 Grassland survey of farmsteads is probably correct in showing a decrease of 18%. The cold December with high wind chill factors may have played a role in reducing the overwintering population of partridge in some Farmland zones (down 35%).

The 1984 Parkland index of 0.09 is substantially the same as that reported in 1983.

1984 Hunting Regulations - Hungarian Partridge

Zones 1-24 including Last Mountain Lake Wildlife Management Unit and starting Oct 1, Elbow, Estevan-Cambria and Lomond #3 (at Maxim) Wildlife Management Units	Sept 24 - Nov 10	10 daily 20 possession
Zones 25-47	Sept 24 - Nov 10	5 daily 10 possession
Zones 48-55 including Fort a la Corne Wildlife Management Unit	Sept 10 - Nov 10	5 daily 10 possession

* Non-residents of Canada may not hunt Hungarian partridge in Zones 9-14 and 25-28.

Although spring counts are somewhat depressed from 1983, hunting is not likely a major contributing factor. Hunting seasons proposed for 1984 are similar to those of 1983 with the addition of a season in the Forest Fringe zones, opening on September 10 with the grouse seasons.

Summary

Hungarian partridge hunting and harvest increased in 1983 to near the 11 year average. Although the provincial 1984 breeding population is down about 28% from 1983 levels, similar hunting seasons are proposed.

PHEASANT

1983 Hunting/Harvest

Saskatchewan residents enjoyed the traditional early and late pheasant seasons in 1983 (Appendix 1, 3e). The 6,350 active pheasant hunters harvested nearly 16,000 cock pheasants which is the highest harvest since 1977 (Tables 22, 23; Figure 15). Active hunters increased by about 60% as did pheasant hunter days. This was expected since hunters were not required to buy a separate pheasant licence in 1983. Hunting success in terms of cocks harvested per hunter day increased 31% to 1.70 birds per day which is near the 7 year average of 1.78 (Table 22).

Old Zone 8 continued as the most important pheasant hunting area (Table 24, Figure 16) providing 42% of the harvest and 33% of pheasant hunter recreation days. Zones 2, 7 and 6, collectively, provided 48% of the harvest. Hunter success was best in Zone 8 with 2.2 cocks harvested per hunter day but Zones 2 and 7 were only marginally less. More hunters appear to be taking advantage of the late season, with 25% of the reported 1983 harvest occurring after November 7 (Figure 17). This compares to about 16% of the harvest occurring after November 8 in 1982. About 34% of the total harvest occurred during the opening week (Oct 3-10).

1984 Breeding Populations - Pheasant

Last winter should have been relatively easy on pheasant populations except for the cold snap in December. However, the provincial index has decreased to 2.31 crows heard per survey stop (Table 25, Figure 18). This index is not directly comparable to the 1983 index of 3.6 since much of the prime pheasant range was not surveyed in 1984. For comparable routes the index has decreased about 5%. From the 1984 surveys it appears the Farmland and Parkland Zone index has increased slightly while populations in the Grasslands have fallen by 16%.

Table 22. Pheasant Hunting Data for Saskatchewan, * 1976-1983

Year	Hunting Level			Hunting Success		
	Active Pheasant Hunters	Pheasant Hunter Days Zones 1-17	Hunter Days/Active Hunter	Pheasant Harvest	Pheasants Harvested/Active Pheasant Hunter	Pheasants Harvested/Pheasant Hunter Day
1976	4,619	7,421	1.6	14,488	3.1	1.95
1977	5,726	9,718	1.7	19,097	3.3	2.05
1978	4,476	6,107	1.4	10,165	2.3	1.66
1979	3,441	4,390	1.3	7,060	2.1	1.61
1980	4,150	5,876	1.4	11,823	2.8	2.01
1981	4,825	7,052	1.5	12,536	2.6	1.78
1982	3,915	5,772	1.5	7,511	1.9	1.30
1976-1982 Average	4,450	6,619	1.5	11,811	2.7	1.78
1983	6,348	9,313	1.5	15,857	2.5	1.70
<u>% Change</u>						
1983 from 1982	+ 62%	+ 61%	No Change	+ 33%	+ 32%	+ 31%
1983 from Average	+ 43%	+ 41%	No Change	+ 34%	- 7%	- 5%

* Only Game Management Zones 1 to 17 are open for pheasant hunting.

Table 23. Saskatchewan Pheasant Harvest and Hunting Pressure by Game Management Zone, 1983

GMZ	TOTAL KILL	% OF HARVEST	ACTIVE HUNTERS	BIRDS PER SQ. MILE	HUNTER DAYS	TOTAL HUNTER DAYS*	SPECIES HUNTER DAYS	GMZ	TOTAL KILL	% OF HARVEST	ACTIVE HUNTERS	BIRDS PER SQ. MILE	HUNTER DAYS	TOTAL HUNTER DAYS*	SPECIES HUNTER DAYS
1	126	0.79	177	0.048	4.56	512	133	20	0	0.00	0	0.000	0.00	960	0
2	3045	19.20	1138	0.644	0.68	2077	1603	21	0	0.00	0	0.000	0.00	1643	0
3	348	2.19	226	0.090	1.86	649	251	22	0	0.00	0	0.000	0.00	2397	0
4	116	0.73	88	0.047	2.18	253	74	23	0	0.00	0	0.000	0.00	1150	0
5	155	0.98	196	0.054	13.17	2042	167	24	0	0.00	0	0.000	0.00	121	0
6	1711	10.79	962	0.310	2.30	3936	1205	25	0	0.00	0	0.000	0.00	103	0
7	2881	18.17	1089	0.415	1.98	5696	1608	26	0	0.00	0	0.000	0.00	141	0
8	6652	41.95	2355	0.791	0.95	6345	3058	27	0	0.00	0	0.000	0.00	39	0
9	445	2.81	520	0.073	10.80	4804	502	28	0	0.00	0	0.000	0.00	1331	0
10	10	0.06	39	0.002	250.20	2502	25	29	0	0.00	0	0.000	0.00	145	0
11	10	0.06	79	0.005	315.10	3151	49	30	0	0.00	0	0.000	0.00	920	0
12	48	0.30	186	0.008	78.60	3773	143	31	0	0.00	0	0.000	0.00	271	0
13	0	0.00	39	0.000	0.00	4850	30	32	0	0.00	0	0.000	0.00	453	0
14	97	0.61	128	0.028	11.64	1129	167	33	0	0.00	0	0.000	0.00	283	0
15	0	0.00	0	0.000	0.00	411	0	34	0	0.00	0	0.000	0.00	150	0
16	39	0.25	98	0.008	53.64	2092	84	35	0	0.00	0	0.000	0.00	411	0
17	174	1.10	226	0.066	9.22	1605	216	36	0	0.00	0	0.000	0.00	140	0
18	0	0.00	0	0.000	0.00	1268	0	37	0	0.00	0	0.000	0.00	28	0
19	0	0.00	0	0.000	0.00	2297	0								
TOTAL								TOTAL							
15897 100.00								7546 0.064 3.79 60148 9315							

* HUNTER DAYS ARE BASED ON ALL UPLAND HUNTING. HALF DAY = HALF DAY.
REFER TO APPENDIX A FOR SQUARE MILES PER GMZ.

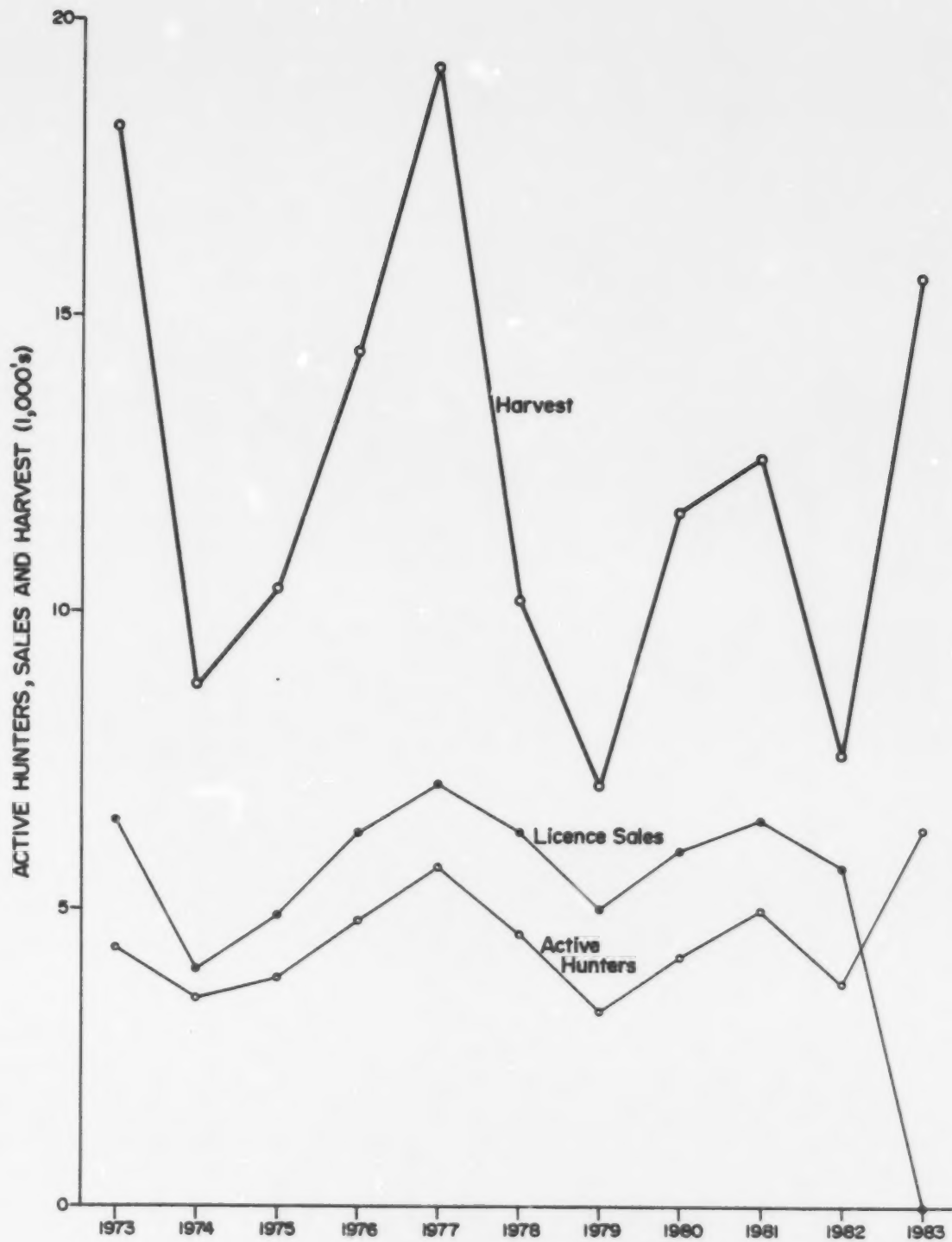


Figure 15. Saskatchewan pheasant licence sales, hunting and harvest, 1973-1983.
(Separate pheasant licence not required in 1983)

Table 24. Important Pheasant Hunting Zones in Saskatchewan, * 1983

	Zone 8	Zone 2	Zone 7	Zone 6	Totals	Province *
Harvest (% of Total)	6,652 (42%)	3,045 (19%)	2,881 (18%)	1,711 (11%)	14,289 (90%)	15,857 (100%)
Harvest Pressure (kill/sq mi)	.79	.64	.41	.31	.56	.21
Pheasant Hunter Days (% of Total)	3,058 (33%)	1,603 (17%)	1,608 (17%)	1,205 (13%)	7,474 (80%)	9,315 (100%)
Hunting Pressure (hunter days/ sq mi)	.36	.34	.23	.22	.29	.12
Hunter Success (kill/hunter days)	2.2	1.9	1.8	1.4	1.9	1.7

* Province defined as Zones 1-17, the only ones in which a pheasant hunting season is held.

NOTE: Data from Zone 6 added to this table for 1983.

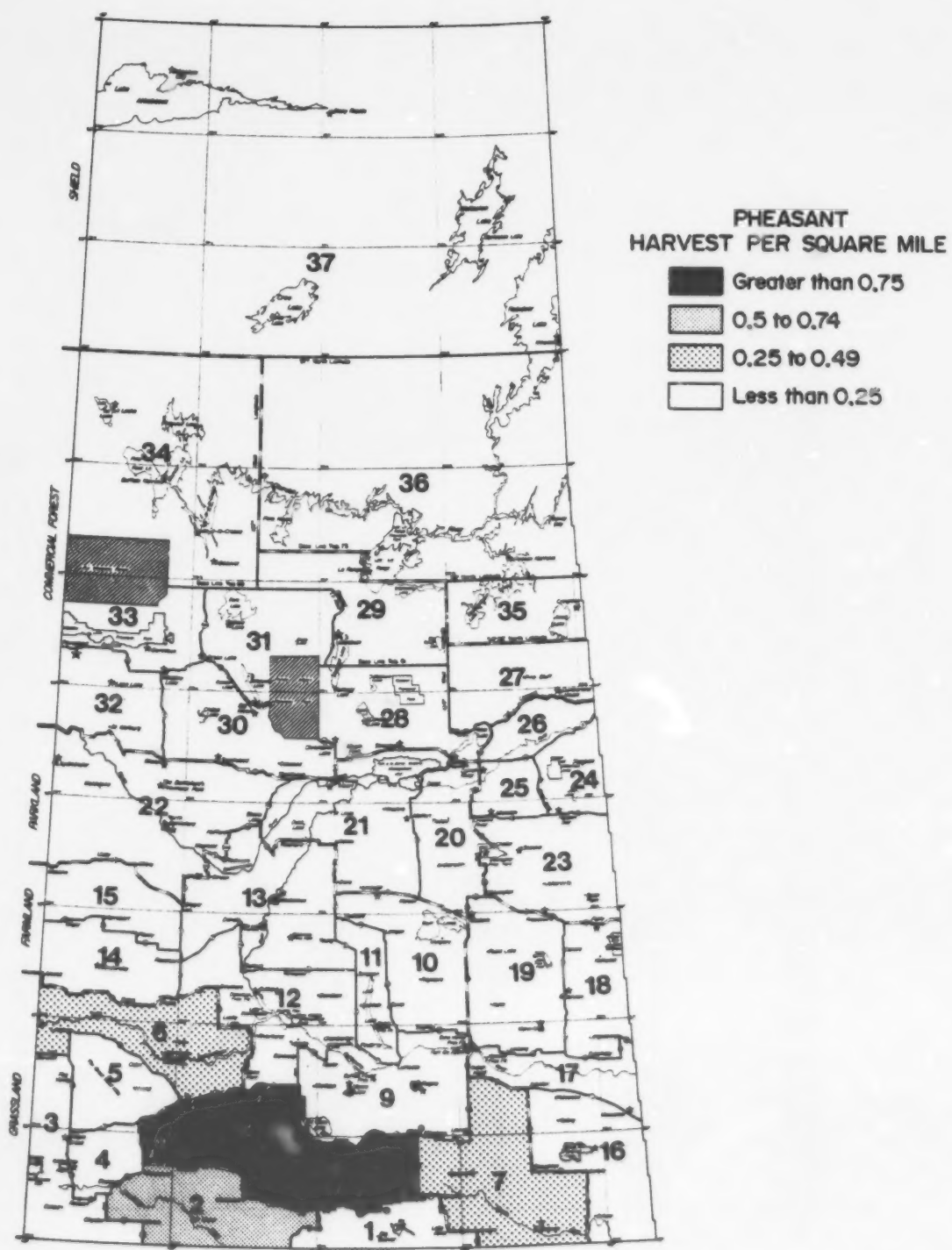


Figure 16. Saskatchewan pheasant harvest density, 1983. (No season in zones 18 to 37)

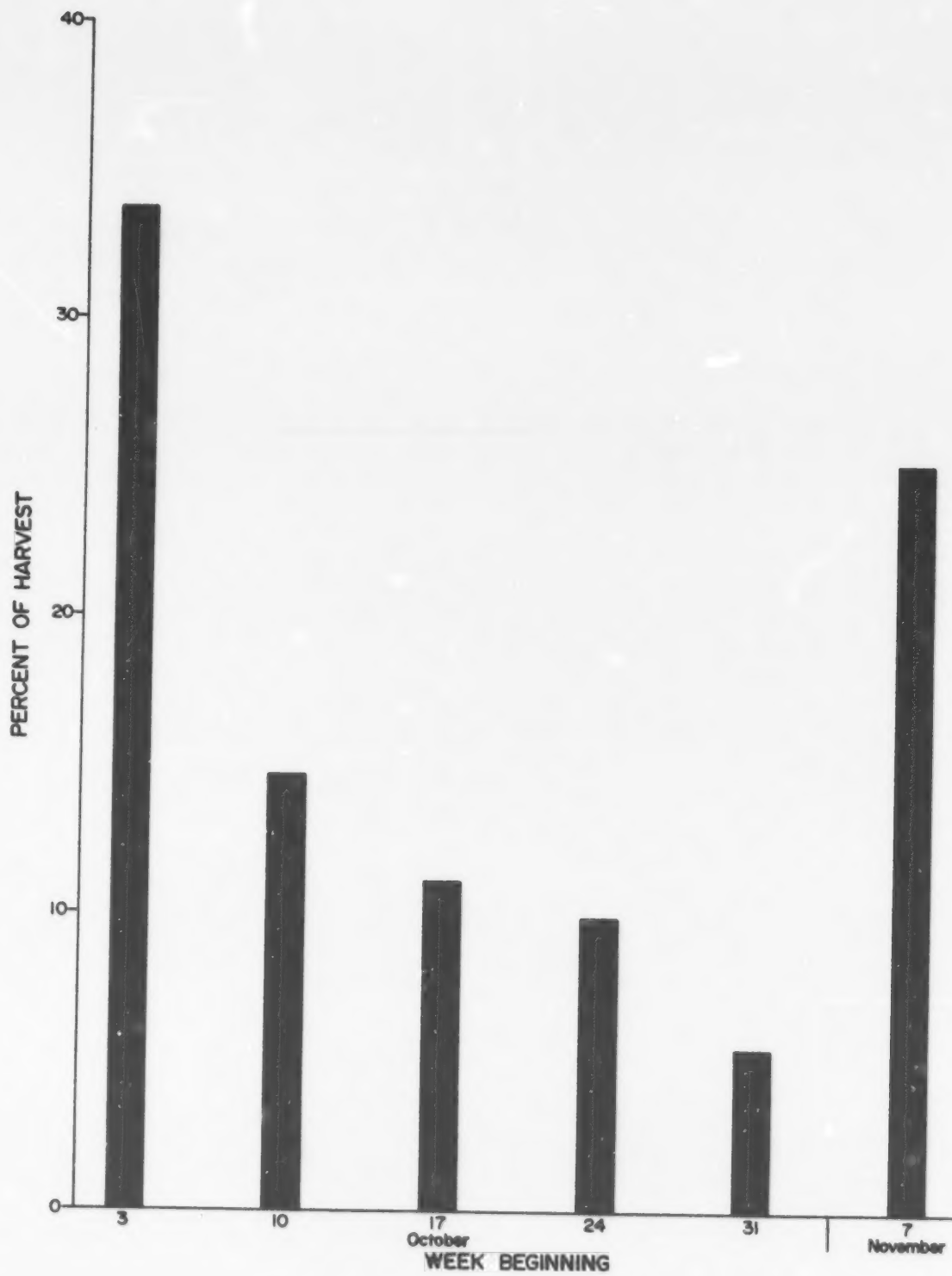


Figure 17. Saskatchewan 1983 pheasant harvest by weekly intervals.
(Period beginning November 7 includes harvest in late pheasant season Nov.28-Dec.17)

Table 25. Saskatchewan Pheasant Breeding Population Surveys, Spring 1984

Wildlife Management Zone (1984)	Survey Area	Survey Stops	Crows Heard/Survey Stop	
			Average Number	% Change from 1983*
1	Big Beaver	20	0.45	N/A
4	Bateman-Coderre	20	2.50	+ 13
4	Notukeu Creek	20	3.85	+ 15
5	Swift Current-Duncairn	20	1.15	- 20
8	Maple Creek North	15	5.87	- 10
14	Estuary-Chesterfield	20	4.20	+ 5
14	Twin Buttes-Davis	18	1.50	- 54
14	Snakebite	20	3.50	- 44
GRASSLAND	(8 survey areas)	153	2.80	- 16
15	Radville East	20	1.35	N/A
16	Marienthal	20	1.55	+ 28
20	Moose Jaw South	20	4.20	+ 162
23	Outlook-Cutbank	20	0.45	- 44
FARMLAND	(4 survey areas)	80	1.89	+ 72
35	Welby West	20	1.90	+ 6
36	Ellisboro	20	0.70	N/A
PARKLAND	(2 survey areas)	40	1.30	+ 6
PROVINCE	(14 survey areas)	273	2.31	- 5

* Based on comparable areas surveyed in both 1983 and 1984.

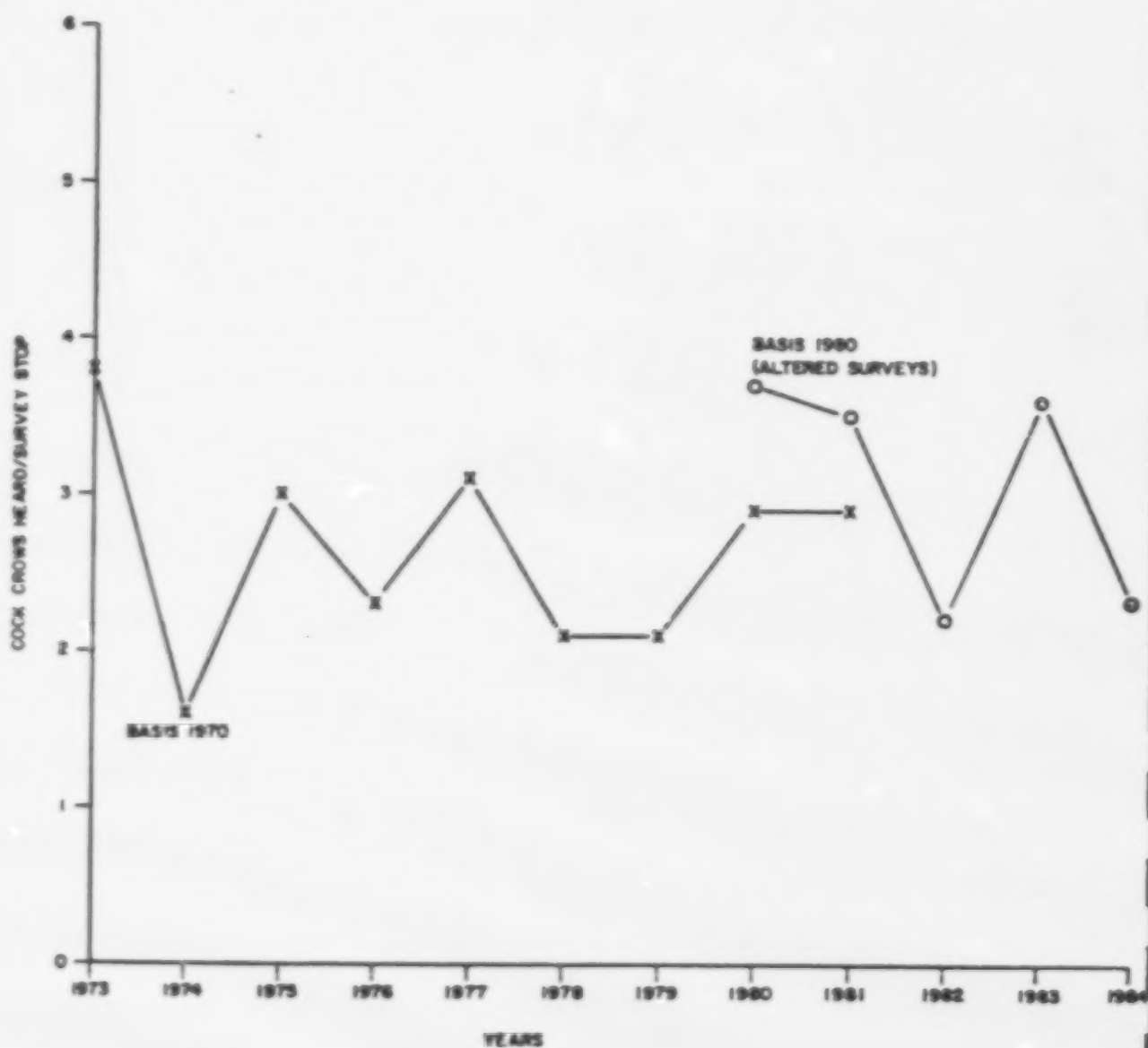


Figure 18. Saskatchewan Pheasant Spring Breeding Population Index 1973 - 1984

NOTE: 1984 Survey Index Not Directly Comparable To 1983 Due To Non-Comparable Survey Routes.

1984 Pheasant Hunting Regulations

Cocks Only

Zones 1-36 including Elbow, Estevan-Cambria and Lomond #3 (at Maxim) Wildlife Management Units	Oct 3 - Nov 10	5 daily 10 possession
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Zones 1-20, 23, 24, 31, 35 and 36 including Elbow, Estevan-Cambria and Lomond #3 (at Maxim) Wildlife Management Units	Nov 26 - Dec 15	5 daily 10 possession
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* Sask. Residents Only.

The proposed 1984 regulations are essentially unchanged from those of 1983 except for a proposal to extend the late season into new Zone 31 (Souris River East).

The analysis of the vehicle restriction proposal outlined last year for portions of the pheasant range indicated that some posted land would be opened to walk-in pheasant hunters if vehicles were restricted. The vehicle restriction issue was discussed at the Wildlife Advisory meeting. SPRR is reluctant to extend vehicle restrictions to pheasant hunting zones without further evaluation. For 1984, landowners wishing to prohibit vehicles will be provided with free vehicle control signs.

Summary

The 1983 pheasant harvest doubled over 1982. Removal of the pheasant licence fee and good populations are generating increased recreation. The 1984 spring breeding index is down slightly from 1983 but not enough to warrant changing bag limits or season dates. The 1983-84 winter should not have severely reduced pheasant populations. No major hunting regulation changes are proposed for 1984 except for the extension of the late season into new Zone 31 (Souris River east of Estevan).

RUFFED GROUSE

1983 Hunting/Harvest

In spring 1983, it was thought that ruffed grouse had reached their lowest ebb in an apparent 10 year cycle of the population. Hunter harvest continued to decline in 1983, however, with the harvest dropping to 13,500 birds, the lowest since 1973 when only 12,700 birds were harvested (Tables 26, 27, 28).

Only 8,800 active ruffed grouse hunters pursued their quarry in response to the very low population levels. Hunting success was down by 12% from 1982 and 63% below the 1972-82 average. Harvest pressure (kill/mi²) remained unchanged in the Grasslands, Farmlands and Commercial Forest but dropped to 0.16 birds/mi² in the Parklands (old Zones 16-22) from 0.26 in 1982. About 43% of the provincial harvest came from the Parkland zones with 28% from the Commercial Forest. Harvest/mi² is depicted in Figure 19.

Surprisingly, Zone 11 ranked first in terms of ruffed grouse harvested/mi² of gross area (Table 29). Zones 16, 17, and 19 ranked in the top five zones similar to 1982 but Zones 18 and 22 were replaced by Zones 11 and 23 in 1983.

Figure 11 illustrates the percent distribution of the harvest throughout the hunting season.

1983 Reproduction - Ruffed Grouse

The 1983 provincial index for reproduction is 2.51 juveniles per adult based on a sample from the 1983 harvest (Table 30, Appendix 10). This is a positive sign for recuperation of the population and is about 27% above the 1979-82 average. Rumors of better reproduction have been substantiated by reports of more birds, at least in the northwest part of the province and by the 1984 spring surveys.

1984 Ruffed Grouse Breeding Population

Spring drumming surveys indicate generally low populations but significant recovery in wildlife management zones 56-73 where the index is up 150% for comparable survey routes (Table 31).

Table 26. Ruffed Grouse Hunting Data for Saskatchewan, 1972-1983

Year	Hunting Level			Hunting Success		
	Active Ruffed Grouse Hunters	Total All Upland Bird Hunter Days	Hunter Days/Active Hunter	Ruffed Grouse Harvest	Ruffed Grouse Harvested/Active Ruffed Grouse Hunter	Ruffed Grouse Harvested/Total Upland Hunter Days
1972	11,057	56,534	5.1	29,853	2.7	0.5
1973	9,102	53,275	5.9	12,743	1.4	0.2
1974 *	7,477	37,801	5.1	14,205	1.9	0.4
1975 *	12,091	48,161	4.0	36,274	3.0	0.8
1976 *	14,782	86,525	5.9	83,805	5.7	1.0
1977 *	17,757	93,496	5.3	94,353	5.3	1.0
1978	17,042	72,380	4.2	94,203	5.5	1.3
1979	17,545	72,096	4.1	86,309	4.9	1.2
1980	18,363	75,578	4.1	91,514	5.0	1.2
1981	14,466	68,989	4.8	36,711	2.5	0.5
1982	10,215	50,382	4.9	16,886	1.7	0.3
1972-1982 Average	13,627	65,010	4.8	54,260	4.0	0.8
1983	8,754	60,146	6.9	13,523	1.5	0.2
% Change						
1983 from 1982	- 14%	+ 19%	+ 41%	- 20%	- 12%	- 33%
1983 from Average	- 36%	- 8%	+ 44%	- 75%	- 63%	- 75%

* Data for these years was erroneous prior to 1979 correction.

Table 27. Ruffed Grouse Harvest and Hunting Pressure by Game Management Zone, 1983

GMZ	TOTAL KILL	% OF HARVEST	ACTIVE HUNTERS	BIRDS PER SQ. MILE	HUNTER DAYS	TOTAL HUNTER DAYS	SPECIES HUNTER DAYS	GMZ	TOTAL KILL	% OF HARVEST	ACTIVE HUNTERS	BIRDS PER SQ. MILE	HUNTER DAYS	TOTAL HUNTER DAYS	SPECIES HUNTER DAYS
1	0	0.00	10	0.000	0.00	572	5	20	405	2.99	359	0.120	2.37	960	316
2	10	0.07	68	0.002	207.70	2077	38	21	497	3.68	675	0.078	3.31	1643	614
3	39	0.29	19	0.010	16.44	649	19	22	992	7.14	887	0.107	2.42	2397	987
4	0	0.00	10	0.000	0.00	253	5	23	1054	7.79	600	0.207	1.10	1150	741
5	68	0.50	107	0.024	30.03	2042	82	24	68	0.50	78	0.034	1.78	121	53
6	282	2.09	212	0.051	13.96	3936	190	25	75	0.55	103	0.051	1.37	103	66
7	337	2.49	355	0.049	16.90	5696	304	26	58	0.43	89	0.034	2.43	141	96
8	213	1.58	243	0.025	29.79	6345	236	27	10	0.07	19	0.003	3.90	39	24
9	416	3.08	549	0.068	11.55	4804	443	28	659	4.87	504	0.138	2.02	1331	625
10	800	3.70	483	0.109	5.00	2502	572	29	232	1.72	117	0.045	0.63	145	96
11	643	4.75	376	0.328	4.90	3151	414	30	865	6.40	452	0.186	1.06	920	576
12	152	1.15	235	0.027	24.34	3773	198	31	222	1.64	146	0.053	1.22	271	207
13	522	3.86	776	0.075	9.29	4450	643	32	306	2.26	240	0.086	1.43	453	341
14	87	0.64	69	0.025	12.98	1129	93	33	142	1.05	125	0.042	1.99	283	140
15	24	0.18	69	0.008	17.13	411	60	34	106	0.78	78	0.007	1.42	150	72
16	1184	8.76	580	0.238	1.77	2092	789	35	532	3.93	136	0.156	0.77	411	226
17	765	5.66	530	0.290	2.10	1605	739	36	135	1.00	56	0.005	1.04	140	38
18	342	2.48	575	0.114	3.50	1268	589	37	0	0.00	0	0.000	0.00	28	0
19	1558	11.52	849	0.289	1.47	2297	1419								
TOTAL								TOTAL							
13523								10791							
100.00								0.055							
4.45								60148							

* HUNTER DAYS ARE BASED ON ALL UPLAND HUNTING. HALF DAY = HALF DAY.
REFER TO APPENDIX A FOR SQUARE MILES PER GMZ.

Table 28. Ruffed Grouse Hunting Data for Saskatchewan by Game Management Divisions, 1983

	Grassland Zones 1-6	Farmland Zones 7-15	Parkland Zones 16-22	Commercial Forest * Zones 23-33	Province ** Zones 1-33
Ruffed Grouse Harvest (% of Total)	399 (3%)	2,897 (21%)	5,763 (43%)	3,691 (28%)	12,750 (95%)
Harvest Pressure (kill/sq mi)	.02	.06	.16	.09	.09
All Upland Bird Hunter Days (% of Total)	9,529 (16%)	32,661 (55%)	12,262 (21%)	4,967 (8%)	59,419 (100%)
Hunter Pressure (hunter days/sq mi)	.45	.69	.35	.13	.41
Hunter Success (kill/hunter day)	.04	.09	.47	.74	.22

* Zone 34 excluded because of insignificance to ruffed grouse hunting.

** Shield Division and Zone 34 excluded because of insignificance to ruffed grouse hunting.

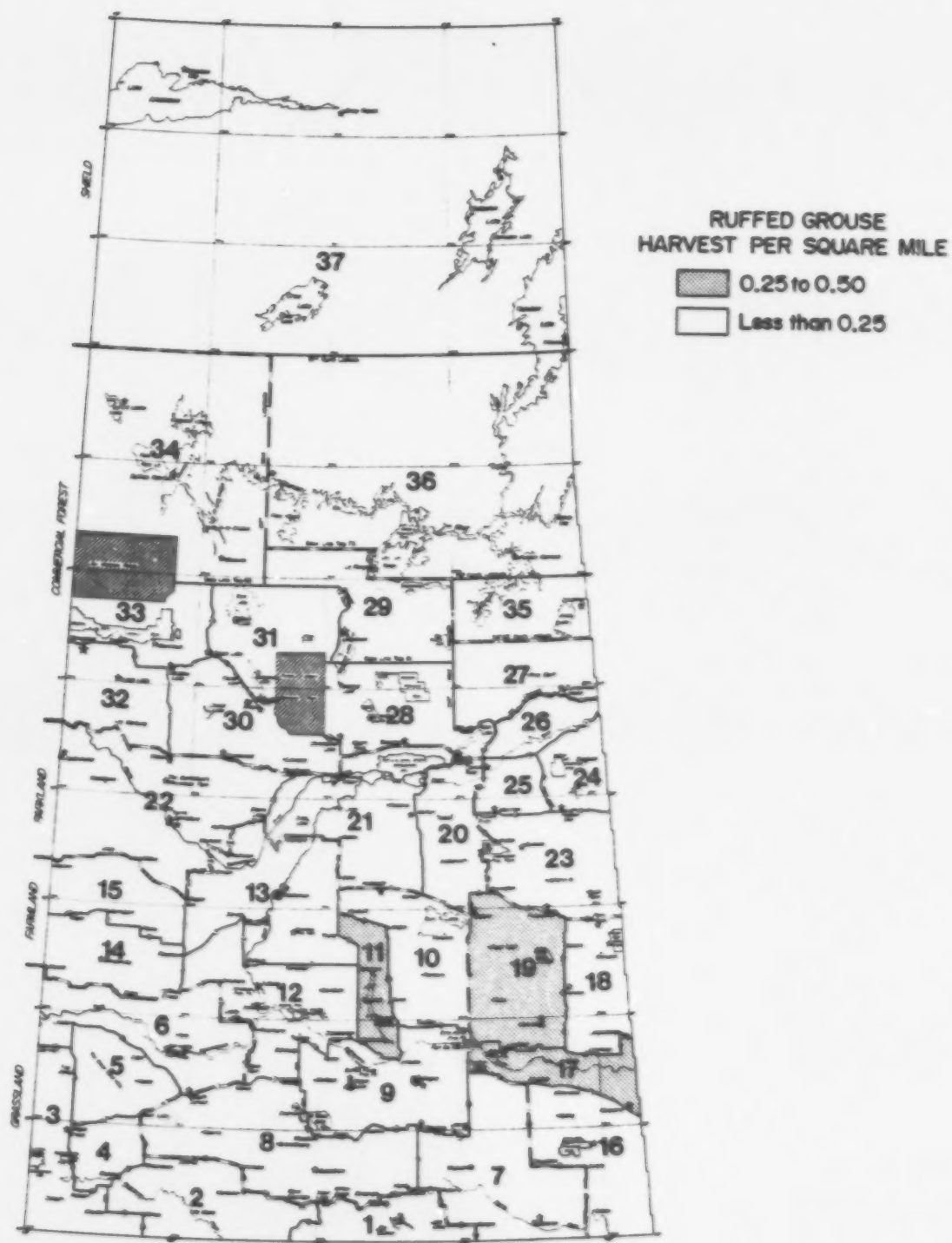


Figure 19. Saskatchewan Ruffed Grouse harvest density, 1963.

Table 29. Most Important Ruffed Grouse Harvest Areas in Saskatchewan, 1982 and 1983

Rank *	1982					1983				
	Game Mgmt. Zone	Ruffed Grouse Harvest/ Sq mi Native Habitat	Ruffed Grouse Harvest/ Sq mi Gross Area	% of Provincial Harvest	Game Mgmt. Zone	Ruffed Grouse Harvest/ Sq mi Native Habitat	Ruffed Grouse Harvest/ Sq mi Gross Area	% of Provincial Harvest	Game Mgmt. Zone	Ruffed Grouse Harvest/ Sq mi Native Habitat
1 st	17	1.2	.35	5	11	1.2	.33	4.8		
2 nd	19	1.5	.35	11	19	1.3	.29	11.5		
3 rd	18	1.2	.31	6	17	1.0	.29	5.7		
4 th	22	1.0 **	.30	17	16	0.8	.24	8.8		
5 th	16	0.9	.28	8	23	0.3 **	.21	7.8		
Total	Leading 5 Zones	1.1	.31	47	Leading 5 Zones	.70	.26	38.6		

* Ranked according to harvest density based on gross area; native habitat areas not yet available for all Game Management Zones.

** Based on rough estimate of native habitat in Zone; Terrestrial Habitat Inventory not yet complete.

NOTE: 1983 data assumes no reduction in native habitat from 1982.

Table 30. Ruffed Grouse Reproduction* in Saskatchewan, 1983 vs Recent Past (Juvenile/Adult in Harvest)

Game Management Division	1979-82				% Change
	1981	1982	Average	1983	
Farmland	1.2	1.2	1.4	1.14**	- 5
Parkland	3.1	2.4	2.3	2.29	- 5
Commercial Forest	2.8	3.8	2.8	4.80	+ 26
PROVINCE	2.3	1.9	2.0	2.51	+ 32
					+ 25

* Based on samples of wings from hunter-killed birds.

**** Sample of less than 50 wings.**

Table 31. Saskatchewan Ruffed Grouse Breeding Population Surveys, Spring 1984

Wildlife Management Zone (1984)	Survey Area	Survey Stops	Drums Heard/Survey Stop	
			Average Number	% Change from 1983*
33	Moose Mountain	20	1.45	N/A
34	Pipestone	15	0.60	- 45
36	Ellisboro	20	0.65	N/A
39	Margo South	15	1.80	+ 5
45	Lizzard Lake	20	0.85	- 6
46	Battle River-Freemont	23	1.04	N/A
PARKLAND	(6 survey areas)	113	1.05	- 12
50	Fort a la Corne	15	1.40	+ 600
53	Big River	16	0.69	0
FOREST FRINGE	(2 survey areas)	31	1.03	+ 129
56	Greenwater	20	0.55	- 45
56	McBride Lake	15	0.67	No Drums (1983)
56	Preeceville	15	0.33	+ 150
57	Ridge Road	14	0.14	0
57	Woody Road South	17	0.65	+ 50
57	Woody Road North	18	0.11	N/A
59	Fir River	20	0.15	0
60	Squaw Rapids East	20	2.65	500+
64	Snowfield Pulp Road	20	0.60	+ 140
67	Chitek Lake	20	0.25	- 30
69	Mistohay	20	0.40	No Drums (1983)
69	Mustus	20	0.15	0
COMMERCIAL FOREST	(12 survey areas)	219	0.57	+ 156
PROVINCE	(20 survey areas)	363	0.76	+ 70

* Based on survey areas surveyed in both 1983 and 1984.

The Parkland (new Zones 31-47) has not exhibited much of an increase (based on 3 comparable survey routes) but the Fort a la Corne route (now classed as Forest Fringe) is up 600% to 1.4 drums per stop from 0.2 drums per stop in 1983. The Parkland and Forest Fringe indices are about double that of the Commercial Forest indicating the more productive nature of these habitats.

Figure 20 exhibits how hunter harvest follows the rather classical population increase and crash of the ruffed grouse population over the last 11 years and substantiates the legendary 10 year cycle. Hopefully, populations will start to show signs of building this year. Hunters should see improvement in the Forest for the fall of 1984.

1984 Ruffed Grouse Hunting Regulations

Zones 1-47 including Last Mountain Lake and Elbow Wildlife Management Units; and Moose Mountain and Duck Mountain Provincial Parks	Sept 24 - Nov 10	5 daily 10 possession
Zones 48-76 including Fort a la Corne Wildlife Management Unit; Greenwater, Meadow Lake, Nipawin and Lac la Ronge Provincial Parks; and Bronson Recreation Site	Sept 10 - Dec 1	5 daily 10 possession

No significant season changes are proposed for 1984. Populations are in a state of recovery from an 11 year low. The proposal in the Grasslands, Farmlands and Parklands is for the season opening to coincide with Hungarian partridge. In keeping with ruffed grouse seasons overlapping the big game seasons in the Forest and Shield, hunting season dates of Sept 10 - Dec 1 are proposed. Only the initial 2 weeks of the bear season, the first week of the early moose season in Zones 70-76, and the late elk season are not encompassed by these dates.

Summary - Ruffed Grouse

The 1983 ruffed grouse harvest bottomed out in a 10 year low. 1984 spring surveys show improvement in the Forest and Forest Fringe zones. The Parkland populations may exhibit a one or two year lag in synchrony with the Forest populations. No major changes are proposed in bag limits or season dates.

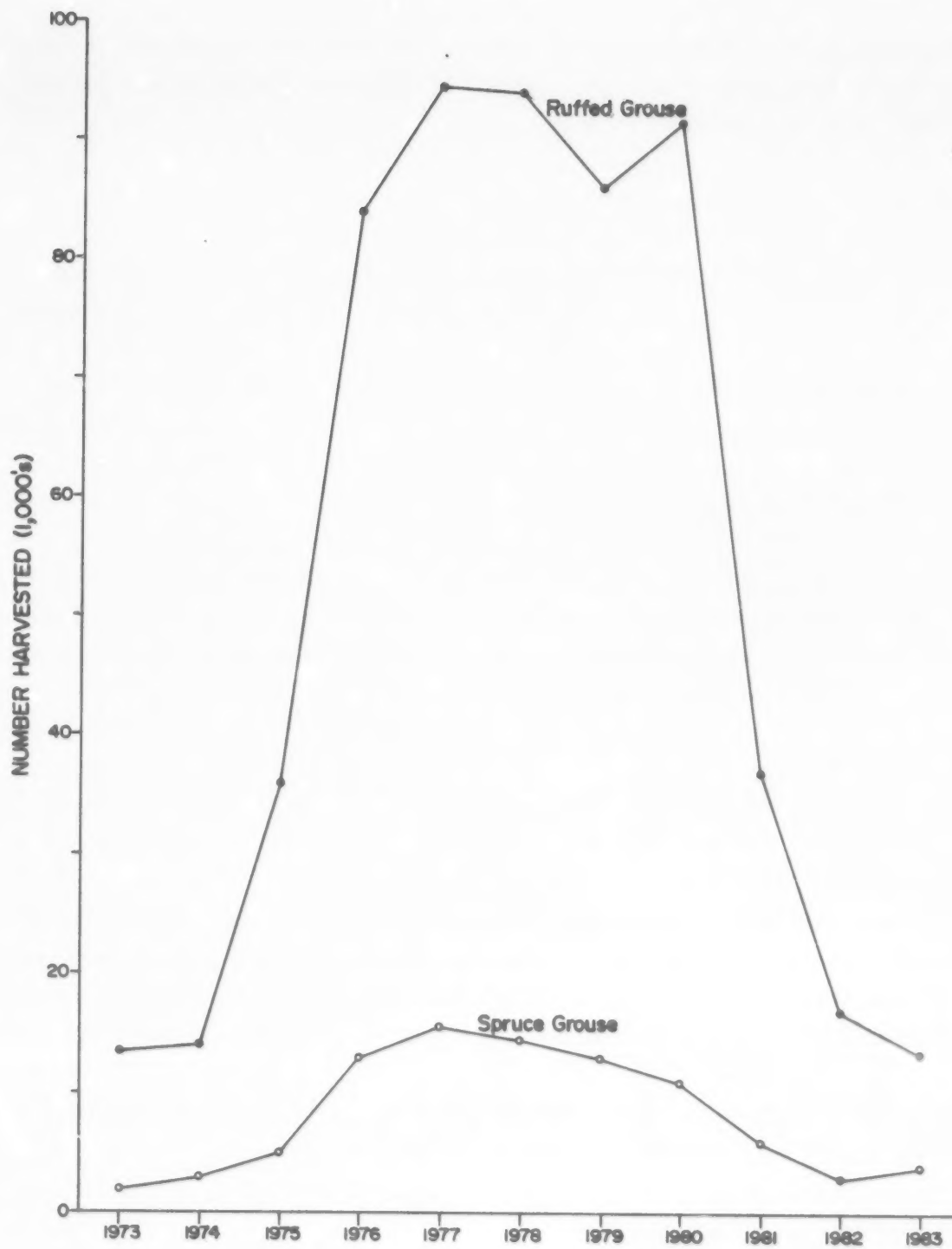


Figure 20. Saskatchewan Ruffed and Spruce Grouse harvest, 1973-1983.

SPRUCE GROUSE

The 1983 spruce grouse harvest of 3,950 birds, up 24% from 1982, was the first increase in the harvest since 1976. Zone 28 produced 47% of the harvest. Spring surveys and wing collections are not conducted for spruce grouse.

1984 Spruce Grouse Hunting Regulations

Zone 43	Sept 24 - Dec 1	5 daily 10 possession
Zones 48-76 including Fort a la Corne Wildlife Management Unit; Meadow Lake, Nipawin and Lac la Ronge Provincial Parks; and Bronson Recreation Site	Sept 10 - Dec 1	5 daily 10 possession

To reduce confusion, the season opening date for Zone 43, the only Parkland Zone open for spruce grouse hunting, coincides with the opening of the other grouse seasons in the Parklands. The spruce grouse season has been extended by 3 weeks in Zone 43 (1983 season in Zones 20 and 21 was Sept 26 to Nov 12).

PTARMIGAN

Little new information is available on recent ptarmigan distribution, numbers or utilization by sport hunters. Migrations are known to occur into the Deschambault Lake area and into the White Lake area off the Reindeer River. Most of the ptarmigan range is relatively inaccessible and most utilization would be opportunistic by big game hunters and trappers.

Some northern residents have expressed the desire for a later closing date because ptarmigan are rarely observed until after late December.

1984 Ptarmigan Hunting Regulations

Zones 61-66, 69-76 including Lac la Ronge Provincial Park	Nov 1 - Feb 2/85	10 daily 20 possession
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BIG GAME

GENERAL

1983 HUNTING REGULATIONS

Hunting season dates, bag limits and licence quotas per big game species are presented in Appendix 12.

All mule deer and antelope licences, plus special moose and elk licences, were available through a computerized draw (Appendix 14). As in previous years resident hunters could purchase a bull/calf moose licence and an antlered elk licence if they were not successful in the special licence draw for these species. Two hundred and twelve guided moose licences were also sold to non-Saskatchewan residents.

Hunters were allowed to purchase two white-tailed deer licences in most Commercial Forest Zones.

DATA COLLECTION TECHNIQUES

Licence Sales

Department of Parks and Renewable Resources, Revenue Section, tabulated and mailed computerized draw licences directly to hunters.

White-tailed deer, woodland caribou, black bear, regular moose and regular elk licences are purchased through approximately 1,200 commercial vendors and S.P.R.R. district offices distributed throughout the province. Vendors return sold and unsold licences to S.P.R.R. Revenue who are then able to determine provincial licence sale figures for each big game species.

Hunter Survey

In October 1982, 27,500 resident, 823 non-resident Canadian and a small sample of non-resident alien hunters were mailed big game questionnaires (Appendix 15). These hunters

were randomly selected from among the 1981 big game regular licence holders and the 1982 computerized draw licence holders.

Approximately 23,490 follow-up questionnaires were mailed in January, 1984 to hunters that did not reply to the first questionnaire. The cut-off date for return of questionnaires was January 31, 1984. The forms returned were edited and the data entered into a computer. The data print-out was available for analysis by February 21, 1984.

Checking Stations

All hunters using designated check stations for big game in Saskatchewan were eligible to enter a draw for major prizes. All hunters providing biological samples received a Wildlife Co-operators Lapel Pin.

Two D.P.R.R. checking stations along with 10 private co-operator collection points were used to obtain age and sex information for moose. Age determinations for animals older than calves were based on tooth (incisor) cementum deposition.

D.P.R.R. Wildlife staff operated two white-tailed deer checking stations during the regular deer season to gather sex and age harvest data.

Antlerless mule deer harvest information was obtained at five locations operated by Department personnel.

Population Surveys

Aerial surveys are conducted during the winter months to determine population levels, herd segregation and productivity information for selected moose, white-tailed deer, mule deer and elk populations. January and February white-tailed deer population estimates were obtained using a stratified random block survey design. Moose line-transect surveys and stratified random block surveys were employed to provide trend and population data, respectively, for winter moose populations. Trend data on antelope populations were obtained from July line-transect aerial surveys. Mule deer population quadrat surveys were conducted within selected areas to document population status in major southwestern habitat blocks.

Sex and age structure estimates for moose, elk, white-tailed deer, mule deer and antelope were based on data collected by sampling selected populations. The number of males, females, and young of the year provided information on population structures.

A white-tailed deer population structure study was conducted on all big game species with the assistance of Conservation Officers and Saskatchewan Wildlife Federation members (Appendix 16). Co-operators classified observed animals by sex (adult male vs adult female) and age (fawn vs adult) class, and provided detailed information on antler development of males.

Native Habitat

The Terrestrial Wildlife Habitat Inventory provided data on existing native habitat in each game management zone (Table 32a-d). These data provided the basis for harvest, population density, and hunting pressure calculations.

Game Management Zones

A new wildlife management zone (WMZ) map is in effect for the 1984 hunting season (Appendix 17). The new map allows for a more refined approach to game management with 76 zones compared to 37 in 1983. This report includes numerous references to the new zones.

Table 32a. Critical Wildlife Habitat by Game Species in the Grassland Zones (Km²)

WMZ	White-tailed Deer	Mule Deer	Moose	Elk	Pronghorn	Sharp-tailed Grouse	Ruffed Grouse	Sage Grouse	Ring-necked Pheasant
1	1,051	717	—	—	683	482	354	—	50
2	1,163	1,584	—	—	1,937	1,192	169	1,312	915
3	36	492	—	—	622	63	—	598	26
4	329	53	—	—	—	137	—	—	290
5	447	267	—	—	—	152	—	—	332
6	818	783	119	107	257	851	32	142	385
7	313	544	149	192	195	142	80	71	38
8	111	59	—	—	289	99	—	—	52
9	1,011	508	—	—	1,076	1,014	—	—	—
10	282	827	—	—	333	1,079	—	—	—
11	147	160	—	—	158	177	—	—	15
12	150	163	—	—	65	150	—	—	—
13	407	613	—	—	598	10	—	—	36
14	500	924	—	—	643	71	—	—	109
Total	6,765	7,674	268	299	6,856	5,619	635	2,123	2,248

Table 32b. Critical Wildlife Habitat by Game Species in the Farmland Zones (Km²)

WMZ	White-tailed Deer	Mule Deer	Pronghorn	Sharp-tailed Grouse	Ruffed Grouse	Grey Partridge	Ring-necked Pheasant
15	197	18	—	1,009	—	—	260
16	10	—	—	136	—	—	—
17	67	—	—	239	22	—	—
18	90	34	—	142	—	—	94
19	340	827	—	454	—	—	4
20	112	—	—	55	29	—	12
21	86	—	—	182	12	—	—
22	30	—	—	67	—	—	—
23	264	273	—	289	—	—	81
24	344	375	—	375	—	56	2
25	108	164	—	303	—	—	—
26	74	159	70	264	—	—	—
27	133	98	—	197	—	—	—
28	231	—	—	252	—	—	—
29	525	162	—	646	—	157	—
30	351	54	—	420	20	—	—
Total	2,962	2,164	70	5,030	83	213	453

Table 32c. Critical Wildlife Habitat by Game Species in the Parkland Zones (Km²)

WMZ	White-tailed Deer	Mule Deer	Moose	Elk	Sharp-tailed Grouse	Ruffed Grouse	Pheasant	Black Bear	Spruce Grouse
31	261	—	—	—	458	—	279	—	—
32	71	—	—	—	203	—	—	—	—
33	562	—	793	793	442	748	—	—	—
34	423	—	—	—	137	168	—	—	—
35	459	—	—	—	102	323	—	—	—
36	271	—	—	—	304	291	—	—	—
37	631	—	351	—	208	672	—	351	—
38	170	—	—	—	204	180	—	—	—
39	711	—	—	—	138	577	—	—	—
40	69	—	20	20	66	69	—	20	—
41	152	—	—	—	163	—	—	—	—
42	737	—	70	5	98	476	—	27	—
43	353	—	154	47	6	217	—	132	39
44	594	138	33	—	525	364	—	—	—
45	1,107	40	—	—	868	851	—	—	—
46	1,062	117	—	—	923	618	—	—	—
47	1,048	—	7	6	274	925	—	1	—
Total	8,681	295	1,077	871	5,119	6,479	279	531	39

Table 32d. Critical Wildlife Habitat by Game Species in the Forest Fringe Zones (Km²)

WMZ	White-tailed Deer	Moose	Elk	Black Bear	Sharp-tailed Grouse	Ruffed Grouse	Spruce Grouse	Mule Deer
48	486	142	128	18	24	395	—	—
49	270	129	104	110	46	134	—	—
50	402	89	197	45	2	164	6	—
51	261	7	181	18	34	190	31	—
52	568	—	234	—	258	588	104	—
53	554	352	109	140	9	549	231	—
54	1,811	1,087	128	166	332	1,821	147	—
55	1,242	759	—	565	20	787	—	6
Total	5,594	2,656	1,081	1,062	725	4,628	519	6

WHITE-TAILED DEER

A. REVIEW OF 1983 HUNTING SEASON

1. Licence Sales

	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>
<u>1st Licence Sales</u>					
Resident	62,181	64,339	63,543	57,320	50,309
Canadian Resident	771	974	1,316	1,095	607
Non-Resident	54	80	124	68	68
<u>2nd Licence Sales</u>					
Resident			6,757	6,433	4,594
Canadian Resident			49	41	19
Non-Resident			21	0	3
TOTAL	63,006	65,393	71,810	64,957	55,600
Resident Archery		1,004	1,376	1,590	1,411
Muzzleloading				368	575

2. Harvest

- Provincial harvest declined 7% to approximately 33,500 animals (Table 33, Figure 21).
- The harvest declined in all major ecological divisions except the Farmland, where harvest was slightly higher than 1982 levels (Tables 34-38).
- The 1982 management objective was to protect the breeding stock, particularly in Zones 7 and 16 by implementing road and road allowance trail vehicle restrictions. Harvest in these two zones declined about 22% from 1982 (Tables 35, 36).
- Heaviest harvest pressure occurred during the week of Nov 14-19 (Tables 39, 40).

Table 33. Provincial White-tailed Deer Harvest 1978-1983

Ecological Division	Harvest						Percent Hunter Success					
	1978	1979	1980	1981	1982	1983	1978	1979	1980	1981	1982	1983
Grassland	2,981	5,035	3,524	4,224	4,243	3,893	73	56	62	56	61	61
Farmland	11,758	12,692	10,830	13,263	11,897	12,629	64	53	55	53	44	55
Parkland	15,780	13,089	17,376	15,109	13,047	11,255	73	56	63	55	52	57
Commercial Forest	10,207	6,363	11,024	8,553	7,029			44	40			
1st Licence Holder	---	---	---	5,912	4,615	3,938	60	---	---	38	33	33
2nd Licence Holder				2,641	2,414	1,859	56			43	45	46
Total	40,726	37,179	42,754	41,149	36,216	33,574	66	52	60	50	47	53

WHITE-TAILED DEER HARVEST STATISTICS

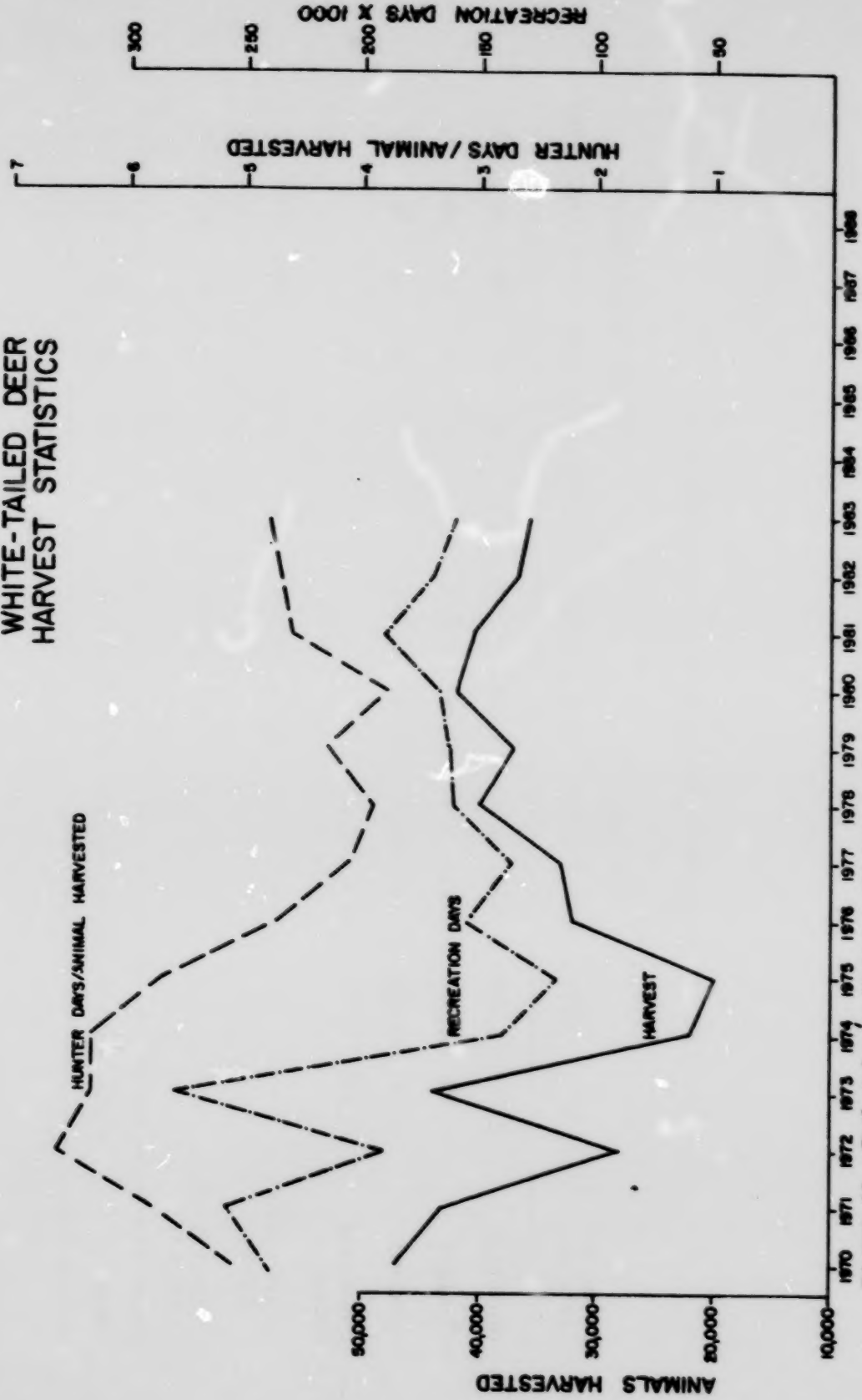


Figure 21. Saskatchewan White-tailed Deer Sport Hunter Harvest, Recreation-Days, and Effort 1970-83

Table 34. White-tailed Deer Harvest - Grasslands 1978-1983

Zone	Harvest						Percent Hunter Success					
	1978	1979	1980	1981	1982	1983	1978	1979	1980	1981	1982	1983
1	283	439	392	542	525	581	86	58	74	62	61	75
2	499	850	529	738	747	613	79	72	62	58	65	69
3	283	521	298	444	462	297	88	64	57	63	73	66
4	459	519	415	512	480	512	79	47	68	57	63	67
5	469	1,237	877	866	865	727	62	55	64	54	53	65
6	988	1,469	1,013	1,122	1,164	1,163	69	51	58	52	54	62
Total	2,981	5,035	3,524	4,224	4,243	3,893	73	56	62	56	59	61

Table 35. White-tailed Deer Harvest - Farmlands 1978-1983

Zone	Harvest						Percent Hunter Success					
	1978	1979	1980	1981	1982	1983	1978	1979	1980	1981	1982	1983
7	3,503	3,053	3,360	3,904	3,827	2,897	85	69	79	67	62	82
8	1,272	1,321	1,006	2,487	1,714	1,796	63	58	59	64	58	69
9	1,516	1,460	741	1,221	1,063	1,265	60	52	56	43	38	56
10	733	839	575	859	861	1,322	59	49	49	47	39	64
11	606	774	388	919	561	619	60	48	52	49	38	50
12	1,379	1,538	1,286	1,228	1,039	1,113	59	45	46	45	39	52
13	1,957	2,592	2,522	1,839	2,052	2,365	53	47	44	44	39	52
14	176	500	312	286	253	588	38	55	47	44	39	67
15	616	615	639	520	527	644	63	56	58	45	47	62
Total	11,758	12,692	10,829	13,263	11,897	12,629	64	53	55	53	47	55

Table 36. White-tailed Deer Harvest - Parklands 1978-1983

Zone	Harvest						Percent Hunter Success					
	1978	1979	1980	1981	1982	1983	1978	1979	1980	1981	1982	1983
16	4,481	5,012	7,306	5,683	4,760	3,782	88	75	78	69	64	75
17	1,330	766	1,934	1,628	1,234	1,043	77	51	61	55	53	60
18	1,663	989	1,747	919	1,186	404	75	54	62	59	57	47
19	2,446	1,563	1,319	1,718	1,306	1,473	72	52	55	55	56	66
20	459	360	603	369	344	360	61	44	52	37	43	49
21	2,123	1,287	1,985	1,205	1,407	1,537	59	42	47	35	42	50
22	3,278	3,112	4,230	3,587	2,810	2,656	67	48	59	50	48	62
Total	15,780	13,089	19,124	15,109	13,047	11,255	73	56	63	55	54	57

Table 37. White-tailed Deer Harvest - Commercial Forest 1980- 1983

Zone	Harvest								Percent Hunter Success									
	1980		1981		1982			1983			1980		1981		1982		1983	
					1st	2nd	Total	1st	2nd	Total			1st	2nd	1st	2nd		
23	2,863	2,204	1,410	813	2,223	1,065	461	1,526	54	40	41	38	48	39	52			
24	381	219	122	62	184	81	63	144	53	30	31	22	35	22	42			
25	893	529	332	167	499	363	196	559	57	38	31	37	43	42	54			
26	540	434	289	152	441	194	112	306	51	34	53	37	48	31	45			
27	160	120	108	47	155	43	44	87	50	30	60	33	47	25	56			
28	1,808	1,355	491	199	690	589	24	613	55	35	43	27	38	40	38			
29	160	15	21	0	21	6	0	6	50	9	0	14	0	14	0			
30	1,808	1,596	795	493	1,280	746	505	1,251	56	35	46	30	47	36	62			
31	278	363	137	57	194	87	53	140	57	49	47	35	46	42	58			
32	1,343	953	564	409	973	476	294	770	60	42	54	33	52	41	66			
33	700	736	339	15	354	282	78	360	80	56	46	44	33	49	44			
34	56	22	7	0	7	6	0	6	40	38	0	20	0	33	0			
Total	11,031	8,553	4,615	2,414	7,029	3,938	1,830	5,769	59	38	43	26	53	33	45			

Table 38. Parkland White-tailed Deer Harvest 1960-1983

Year	Game Management Zone						Total
	16 & 17	18	19	20	21	22	
1960	9,267	1,321	1,827	1,211	1,687	1,932	17,245
1961	7,970	713	1,982	1,549	1,690	1,901	15,805
1962	7,302	790	1,206	680	864	1,624	12,466
1963	6,752	1,109	1,014	348	564	876	10,663
1964	5,528	1,278	1,797	644	859	1,352	11,458
1965	7,589	2,281	3,080	690	949	1,669	17,258
1966	10,348	2,562	2,999	515	707	2,018	19,149
1967	10,277	1,982	3,415	712	939	2,804	20,129
1968	2,522	2,494	3,311	796	1,233	3,488	18,844
1969	8,173	3,288	3,913	956	1,312	4,353	21,995
1970	4,740	3,829	2,771	1,558	2,445	3,476	18,819
1971	3,087	3,192	2,992	1,352	1,834	2,807	15,264
1972	3,124	969	1,474	524	903	1,608	8,602
1973	4,762	963	1,008	629	804	2,437	10,603
1974	2,602	617	684	379	445	1,499	6,226
1975	3,554	1,010	1,668	223	891	2,021	9,467
1976	6,535	1,105	1,662	506	1,612	3,419	14,839
1977	4,422	1,351	1,758	358	1,567	2,618	12,074
1978	5,811	1,663	2,446	459	2,123	3,278	15,780
1979	4,820	989	1,563	360	1,287	3,111	12,130
1980	9,240	1,747	1,319	603	1,985	4,230	19,124
1981	7,311	919	1,718	369	1,205	3,587	15,109
1982	5,994	1,186	1,306	344	1,407	2,810	13,047
1983	4,825	404	1,473	360	1,537	2,656	11,255
1960-1980 Avg.	6,401	1,679	2,090	717	1,271	2,501	14,659
1960-1969 Avg.	8,173	1,782	2,454	810	1,080	2,202	16,501
1970-1979 Avg.	4,346	1,569	1,803	634	1,391	2,627	12,370
1975-1983 Avg.	5,835	1,152	1,657	398	1,513	3,080	13,647

Table 39. White-tailed Deer Harvest, Hunter Days, and Hunter Success by Week
(Residents Licence #1)

Week	1982			1983		
	Harvest	Hunter-Days	% Success	Harvest	Hunter-Days	% Success
Sept 6	16	12	2	---	---	---
Sept 5-10	88	3,274	7	48	3,346	6
Sept 12-17	80	3,111	7	79	3,289	11
Sept 19-24	32	2,716	3	78	2,960	11
Sept 26-Oct 1	8	1,227	2	48	2,287	8
Oct 3	8	701	2	24	49	77
Oct 3-8	---	---	---	78	3,422	7
Oct 9	32	884	4	---	---	---
Oct 10-15	280	3,501	19	355	3,528	28
Nov 1	48	290	14	---	---	---
Nov 1-6	129	418	21	---	---	---
Nov 7	409	2,633	13	192	70	N/A
Nov 7-12	1,492	12,265	22	935	12,130	19
Nov 14	7,622	26,021	23	6,406	592	N/A
Nov 14-19	14,579	63,152	34	13,046	77,624	34
Nov 21	1,991	8,744	18	1,079	666	N/A
Nov 21-26	6,180	22,487	35	7,489	34,375	47
Nov 28-Dec 3	---	---	---	363	3,532	19
Dec 3	---	---	---	221	14,305	17
TOTAL	32,994	152,907	122,799	30,441	149,393	

Table 40. White-tailed Deer Harvest, Hunter Days, and Hunter Success by Week
(Residents Licence #2)

Week	1982			1983		
	Harvest	Hunter-Days	% Success	Harvest	Hunter-Days	% Success
Sept 6	6	3	96			
Sept 6-11	6	3	96			
Oct 3-8	6	74	19	17	188	29
Oct 10-15	18	40	58	25	208	34
Nov 7	188	911	18	24	13	N/A
Nov 7-12	773	4,457	31	324	3,186	27
Nov 14-19	876	4,355	39	555	1,195	62
Nov 21-26	771	3,861	36	579	3,260	48
Nov 28-Dec 3	-----	-----	---	123	950	25
Dec 3	-----	-----	---	154	506	34
TOTAL	2,644	13,706		1,801	10,245	

- Hunter-days recreation declined 6% provincially, but by 25% in GMZ's 7 and 16 combined. The Farmland ecological zone was the only area to demonstrate an increase (Tables 41-45).
- The 1983 provincial harvest structure of 237 males/100 females/34 fawns was similar to the 1982 structure of 233 males/100 females/37 fawns (Tables 46-50).
- The Forest harvest of fawns/100 females declined from 63 in 1982 to 46 in 1983.
- Non-resident Canadian and alien harvests declined in 1983 with the large increase in licence fees (Tables 51, 52).
- Analysis of hunter questionnaires returned and success by zone for resident hunters are given in Appendices 18 and 19.

SUMMARY: THE 1983 HUNTER QUESTIONNAIRE DATA WAS CONSISTENT WITH THE LONG TERM AVERAGES FOR HARVEST, RECREATION, SUCCESS AND EFFICIENCY THROUGHOUT ALL ECOLOGICAL ZONES.

B. POPULATION STATUS

1. Density: Quadrat Surveys

- Quadrat surveys were considerably restricted in 1984 due to poor flying conditions (Table 53).
- The density estimate of 1.9 deer/km² associated with the Moose Mountain Uplands (New WMZ 33) was significantly ($p < 0.001$) lower than the 1982-83 estimates, and provided the only 1983-84 survey comparison.
- A large forest fringe survey encompassing 1,800 km² of farmland, 585 km² of farmland-forest transition, and 1,930 km² of forest habitat between Tobin Lake and Prince Albert resulted in an estimate of only 562 $\pm$ 63 ($p < 0.05$) white-tailed deer (Table 53).
- Rough estimates of white-tailed deer densities in southwestern Saskatchewan were 0.89, 0.38, 0.53, and 0.46/km² for New WMZ's 9, 10, 12 and 13, respectively (Table 53).
- 0.78, 0.92, and 0.55 white-tailed deer/km² were estimated for the Eastend, Swift Current Creek, and Val Marie survey blocks, respectively (Table 54).

Table 41. Provincial White-tailed Deer Hunting Pressure 1980-1983

Ecological Division	Hunter Days			Hunter Days/Sq. Km			Hunter Days/Animal		
	1980	1981	1982	1983	1980	1981	1982	1983	1980 1981 1982 1983
Grassland	11,316	14,441	14,214	12,453	0.45	0.58	0.57	0.50	3.1 3.4 3.4 3.2
Farmland	39,346	50,058	48,212	48,474	1.4	1.8	1.7	1.8	3.6 4.7 4.1 3.8
Parkland	67,377	66,230	55,313	49,791	3.0	3.0	2.5	2.2	2.9 5.9 4.2 4.4
Commercial Forest	50,696	59,394*	51,891*	47,937	0.4	0.5	0.4	0.4	4.6 6.9 7.4 8.3
Total	168,735	190,123	169,630	159,235	0.8	0.9	0.8	0.8	4.0 4.6 4.7 4.8

* Total 1st and 2nd licence hunting activity.

Table 42. Grassland White-tailed Deer Hunting Pressure 1980-1983

Zone	Hunter Days			Hunter Days/Sq. Km Habitat			Hunter Days/Animal					
	1980	1981	1982	1983	1980	1981	1982	1983	1980	1981	1982	1983
1	953	1,408	1,471	1,276	0.33	0.49	0.51	0.44	2.2	2.6	2.8	2.2
2	1,400	2,234	1,953	1,638	0.22	0.35	0.31	0.26	2.5	3.0	2.6	2.7
3	1,028	918	993	845	0.19	0.17	0.18	0.16	3.1	2.1	2.2	2.9
4	953	1,520	1,123	1,492	0.39	0.62	0.46	0.61	2.0	3.0	2.4	2.9
5	3,026	3,443	3,664	2,829	0.90	1.0	1.1	0.85	3.4	4.0	4.3	3.9
6	3,956	4,918	5,010	4,373	0.88	1.1	1.1	0.98	3.9	4.4	4.4	3.8
Total	11,316	14,441	14,214	12,453	0.45	0.58	0.57	0.50	3.1	3.4	3.4	3.2

Table 43. Farmland White-tailed Deer Hunting Pressure 1980-1983

Zone	Hunter Days			Hunter Days/Sq. Km Habitat				Hunter Days/Animal				
	1980	1981	1982	1983	1980	1981	1982	1983	1980	1981	1982	1983
7	7,717	10,517	11,198	7,745	1.7	2.4	2.5	1.8	2.3	2.7	3.0	2.7
8	2,751	6,246	4,434	5,300	0.63	1.4	1.0	1.2	2.7	2.5	2.6	3.0
9	3,777	6,636	5,676	6,381	1.0	1.8	1.5	1.7	5.1	5.4	5.3	5.1
10	2,820	3,939	4,831	4,947	0.93	1.3	1.6	1.6	4.8	4.6	5.7	3.8
11	1,476	3,966	2,986	2,724	1.1	3.0	2.2	2.0	3.6	4.3	5.4	4.4
12	5,754	5,686	5,242	5,332	1.7	1.7	1.6	1.6	4.5	4.6	5.1	4.8
13	11,230	9,512	10,363	11,818	2.7	2.3	2.5	2.8	4.5	5.2	5.1	5.0
14	1,297	1,111	1,116	1,722	0.69	0.59	0.59	0.9	3.9	3.9	4.4	2.9
15	2,524	2,445	2,366	2,505	1.7	1.7	0.62	1.7	3.8	4.7	4.5	3.8
Total	39,346	50,058	48,212	48,474	1.4	1.8	1.7	1.8	3.6	3.8	4.1	3.8

Table 44. Parkland White-tailed Deer Hunting Pressure 1980-1983

Zone	Hunter Days			Hunter Days/Sq. Km Habitat			Ht. ter Days/Animal					
	1980	1981	1982	1983	1980	1981	1982	1983	1980	1981	1982	1983
16	16,921	17,126	15,583	12,210	4.3	4.4	4.0	3.1	2.3	3.0	3.3	3.2
17	7,745	6,343	4,609	4,334	3.9	3.2	2.3	2.2	3.9	3.9	3.8	4.2
18	6,057	2,927	5,351	2,430	2.8	1.4	2.5	1.1	3.4	7.8	4.6	6.0
19	5,155	7,180	5,542	5,929	1.6	2.3	1.7	2.2	3.8	4.2	4.3	4.7
20	2,964	2,718	2,027	1,987	3.4	3.1	2.3	2.3	4.7	7.4	6.0	5.5
21	10,452	8,684	7,747	9,172	3.5	2.9	2.6	3.1	5.2	7.2	5.6	6.0
22	18,043	21,252	14,454	12,729	2.5	3.0	2.0	1.8	4.2	5.9	5.2	4.8
Total	67,337	66,230	55,313	49,791	3.0	3.0	2.5	2.2	3.8	4.4	4.2	4.4

Table 45. Commercial Forest White-tailed Deer Hunting Pressure 1980-1983
(Licence #1 & #2)

Zone	Hunter Days				Hunter Days/Sq. Km Habitat				Hunter Days/Animal			
	1980*	1981*	1982	1983	1980	1981	1982	1983	1980	1981	1982	1983
23	15,949	17,814	16,546	14,820	1.8	2.0	1.8	1.7	5.7	8.1	8.7	9.7
24	2,020	2,050	1,899	1,790	0.4	0.4	0.4	0.4	5.1	9.4	11.4	12.4
25	4,569	3,905	4,007	5,031	1.5	1.3	1.3	1.6	5.1	7.4	8.9	9.0
26	2,482	2,775	2,895	3,208	0.6	0.7	0.7	0.6	4.5	6.4	7.2	10.5
27	539	711	1,022	841	0.05	0.07	0.1	0.1	2.7	5.9	7.6	12.6
28	8,489	10,027	6,708	4,910	0.8	0.9	0.6	0.5	4.8	7.4	11.2	8.0
29	842	379	231	99	0.06	0.03	0.02	0.01	4.6	25.3	11.0	16.5
30	7,304	10,420	9,050	8,801	0.98	1.39	1.21	1.2	4.0	6.5	8.6	7.0
31	1,208	1,460	1,060	894	0.1	0.1	0.1	0.1	4.0	4.0	6.2	6.4
32	4,748	5,877	6,491	5,379	0.71	0.88	0.97	0.8	3.6	6.2	8.5	7.0
33	1,938	3,764	1,870	2,138	0.2	0.4	0.2	0.3	2.7	5.1	5.3	5.9
34	608	211	112	26	0.02	0.005	0.003	-	8.8	9.6	16.0	4.3
Total	50,696	59,393	51,891	47,937	0.4	0.5	0.4	0.4	4.6	6.9	7.4	8.3

* Total Hunter Days
1st & 2nd Licences

Table 46. Provincial White-tailed Deer Harvest Structures - 1982-83

Ecological Division	n	% Sex and Age Class						Males/100 Females/Fawns	
		1982			1983			1982	1983
		Fawns	Males	Females	n	Fawns	Males		
Grassland	500	9	69	23	616	9	66	302/100/36	254/100/34
Farmland	1,517	9	61	30	1,996	9	63	204/100/32	225/100/33
Parkland	1,525	10	63	27	1,778	9	65	235/100/38	254/100/42
Commercial									
Forest	821	15	61	24	948	11	62	256/100/63	237/100/46
Total	4,363	10	63	27	5,338	9	64	233/100/37	237/100/34

* N = Actual questionnaires used

Table 47. Grasslands White-tailed Deer Harvest Structure - 1982-83

Game Management Zone	% Sex and Age Class						Males/100 Females/Fawns		
	1982			1983			1982	1983	
	Fawns	Males	Females	n	Fawns	Males			Females
1	6	65	29	92	8	66	28	222/100/22	240/100/28
2	4	82	14	97	6	82	12	566/100/25	608/100/38
3	11	66	23	47	9	66	25	292/100/50	258/100/33
4	5	74	21	81	10	62	28	350/100/25	217/100/35
5	10	67	23	115	11	55	34	291/100/45	157/100/30
6	10	64	26	184	10	66	24	250/100/39	261/100/39
Total	9	69	23	616	9	66	25	302/100/36	254/100/34

Table 48. Farmland White-tailed Deer Harvest Structure - 1982-83

Game Management Zone	% Sex and Age Class										Males/100 Females/Fawns	
	1982					1983						
	n	Fawns	Males	Females	n	Fawns	Males	Females	1982	1983		
7	496	10	56	34	458	12	61	27	167/100/29	221/100/42		
8	218	10	67	23	284	6	64	30	292/100/44	222/100/20		
9	133	6	65	29	199	8	65	27	226/100/24	242/100/34		
10	106	15	62	23	209	11	57	31	275/100/67	189/100/43		
11	70	16	51	33	98	10	56	34	156/100/49	164/100/33		
12	134	3	69	28	176	4	67	29	242/100/11	229/100/16		
13	261	10	58	31	374	9	65	27	185/100/33	247/100/35		
14	29	0	69	21	93	6	68	26	291/100/00	262/100/25		
15	70	9	61	30	105	9	67	24	205/100/29	280/100/40		
Total	1,517	9	61	30	1,996	9	63	28	204/100/32	225/100/33		

Table 49. Parkland White-tailed Deer Harvest Structure - 1982-83

Game Management Zone	% Sex and Age Class						Males/100 Females/Fawns		
	1982			1983					
	n	Fawns	Males	Females	n	Fawns	Males	Females	1982 1983
16	534	13	57	30	598	10	62	28	194/100/42 218/100/38
17	147	7	65	28	165	10	64	26	226/100/24 250/100/43
18	148	10	68	22	64	0	98	2	303/100/45 460/100/00
19	159	4	71	25	233	9	63	28	283/100/15 3100/100/00
20	35	6	80	14	57	19	58	23	560/100/40 228/100/36
21	168	6	65	29	242	9	67	24	222/100/20 254/100/85
22	334	13	63	24	419	11	64	25	258/100/54 279/100/38
Total	1,525	10	63	27	1,778	9	65	26	235/100/38 254/100/42

Table 50. Commercial Forest White-tailed Deer Harvest Structure - 1982-83 (Licences #1 & #2)

Game Management Zone	% Sex and Age Class						Males/100 Females/Fawns	
	1982			1983			1982	1983
	n	Fawns	Males	Females	n	Fawns		
23	200	17	62	23	249	12	61	27
24	26	8	69	23	25	4	80	16
25	58	7	66	27	92	11	54	35
26	59	9	71	20	54	10	58	32
27	21	6	81	14	15	0	4	26
28	89	11	61	28	94	7	65	28
29	0	0	0	0	1	0	100	0
30	171	17	56	27	206	10	64	26
31	24	4	54	42	25	4	84	12
32	131	24	58	18	131	15	65	20
33	41	12	63	25	56	17	54	29
Total	821	15	61	24	948	11	62	27
								256/100/63

Table 51. Non-Resident Canadian White-tailed Deer Harvest, 1982-1983.

Game Management Zone	Harvest		Success		# Records	
	1982	1983	1982	1983	1982	1983
3	0	----	0	----	1	----
4	9	----	100	----	1	----
5	19	25	67	100	3	1
6	28	----	100	----	3	----
7	38	25	100	50	4	2
8	19	----	67	----	3	----
9	9	----	100	----	1	----
12	0	----	0	----	1	----
13	0	----	0	----	1	----
16	528	154	83	85	66	7
17	19	77	67	100	3	3
19	9	25	50	50	2	2
20	0	----	0	----	1	----
22	9	25	50	100	2	1
23	38	25	36	14	11	7
24	9	----	50	----	2	----
25	9	----	100	----	1	----
26	0	0	0	0	1	2
28	0	25	0	100	2	1
32	28	25	50	100	6	1
33	9	----	100	----	1	----
35	0	----	0	----	1	----
TOTAL	787	410	72	73	117	27

Note: In 1981 there were 1,245 non-resident Canadians harvesting 1,074 deer, with an 86 percent success rate. The harvest structure was 441 males/100 females/13 fawns.

In 1982 there were 1,095 non-resident Canadians harvesting 787 deer, with a 72 percent success rate. The harvest structure was 211 males/100 females/15 fawns.

In 1983 there were 604 non-resident Canadians harvesting 410 deer with a 73 percent success rate. The harvest structure was 140 males/100 females/80 fawns.

Table 52. Non-Resident Alien White-tailed Deer Harvest 1982-1983*

GMZ	Harvest	% Success	# Records
23	13	50	2
24	0	0	2
28	13	100	1

* There were no records available for non-resident alien white-tailed deer hunters in 1983.

Table 53. Saskatchewan White-tailed Deer Population Surveys 1983-84

Survey	Old Zone	New Zone	Area (Km ²)	Population ±95% C.I.	Density (Deer/km ²)	Change From Last Survey (Year)
Moose Mtn *	16	33	673	1,303 ±211	1.94	-28% (1983)
Forest Fringe *	28	50, 51, 62, 63, 64	4,311	562 ±63	0.13	N/A
Great Sandhills ** (south)	5	9	282	250	0.89	-75% (1981)
Great Sandhills ** (north)	5	10	773	294	0.38	-84% (1981)
Cabri **	6	12	137	75	0.53	+130% (1981)
Burstall **	6	11	67	31	0.46	+18% (1981)

* Stratified Random Block Survey

** Population estimate extrapolated from sex and age survey flown in a R-22 helicopter in Nov 1983. The sex and age surveys encompassed a portion of each survey area and were designed to yield the highest number of mule deer with the least effort. Snow cover during the survey was marginal. As a result of all of these biases, the population projections are likely underestimated.

Table 54. 1983-84 Southwest Drainage White-tailed Deer Population Surveys

Block	Old Zone	New Area WMZ Km ²	Area Surveyed Km ²	Population ±95% C.I. of Townships Surveyed	Density (Deer/km ²)	Population ±95% C.I. of Whole Survey Block *	
Eastend	4	6	552	102	237 ±253	0.43 ±0.45	396 ± 415
Swift Current Creek	4, 8	5, 6	552	87	243 ±144	0.44 ±0.26	405 ± 240
Val Marie	2	2	829	59	424 ±497	0.51 ±0.60	846 ± 995

- * The survey blocks for Eastend, Swift Current Creek, and Val Marie encompassed 922, 922, and 1,658 km², respectively. To reduce survey costs, 6, 6, and 9 townships were randomly selected and stratified. The 3 strata used were designated as high (major drainages), medium (tributaries), and low (uplands), but only blocks with the high and medium strata were flown under the assumption of no deer in the low stratum (this assumption, however, may be incorrect for white-tailed deer). Due to the problems inherent to this survey, results should not be interpreted as conclusive.

2. Population Structure: Helicopter Aerial Survey

- 1,700 white-tailed deer were classified primarily from the Parkland and Grassland ecological zones (Table 55).
- Parkland deer had 93 fawns/100 does compared to only 66 fawns/100 does for Grasslands ($X^2=5.5$, $p<0.20$).
- Grasslands had a higher proportion of males and significantly more mature males ($X^2=1.78$, $p<0.20$) than the Parkland.

3. Population Structure: Co-operative Wildlife Management Study

- 13,754 white-tailed deer were classified by sex and age class in Sept-Nov 1983 (Tables 56-61).
- Deer from the Farmlands and Grasslands were most productive, yielding estimates of 107 fawns/100 does compared to 95 for the Parklands and 91 and 92 for the Forest Fringe and Commercial Forest, respectively.
- Differences in the helicopter and wildlife co-operator observations on productivity and sex structure from the Grasslands may be largely attributed to the much broader co-operator Grasslands survey (Tables 55, 57).
- In general, 1983 estimates of productivity were higher than observed in the 1982 Melville Region co-operator study (Figure 22) and estimates of sex-ratios were unchanged (Figure 23).

4. 1983 Harvest Data and Management Experiments

- (a) Roads and Road Allowance Trails Vehicle Restrictions, Zones 7 and 16 (New WMZ'S 15-17, 31-34)
- Harvest declined 22% to 6,679 (Tables 35, 36).
 - Hunter-days declined 25% to 19,955 days.
 - Hunter success increased from 62% to 82% in WMZ 7 and from 64% to 75% in WMZ 16.
 - Hunter days/deer declined slightly in both areas.
 - The 1983 harvest structure was statistically different from the 1982 kill structure ($X^2=23.6$, $p<0.001$). In both Zones 7 and 16, yearlings, particularly males, comprised a larger proportion of the kill. This may reflect a difference in overwinter survival of fawns and recruitment following the severe 1981/82 winter and mild 1982/83 winter (Table 62).
 - Percent harvest by sex and age classes are presented for each of Old Zones 7 and 16 (Figures 24, 25).
 - 78% of 220 hunters interviewed favoured road and road allowance trail vehicle restrictions.

Table 55. White-tailed Deer Population Structure - Helicopter Observations Oct-Nov 1983

New WMZ	Yearling Males (%)	Mature Males (%)	Does Fawns 100 Females	Males 100 Females	Fawns 100 Females	% Does with Fawns Single Twins Triplets
9	14 (47)	16 (53)	67	33	43	25 0
10	8 (50)	8 (50)	50	40	32	7 7
11	1 (50)	1 (50)	12	11	16	0 100 0
12	3 (38)	5 (62)	20	15	45	0 0 0
GRASSLAND	26 (46)	30 (54)	149	99	38	17 2
31	62 (60)	42 (40)	294	258	36	23 0
32	25 (62)	15 (38)	188	201	21	28 3
33	2 (100)	0 (0)	2	2	—	0 100 0
34	9 (33)	18 (67)	86	68	37	21 2
PARKLAND	98 (57)	75 (43)	570	529	32	25 1
FARMLAND	6 (67)	3 (33)	29	33	34	40 10
FRINGE	1 (100)	0 (0)	19	15	11	14 0
FOREST	4 (80)	1 (20)	6	5	83	25 0
PROVINCE	135 (55)	109 (45)	773	681	33	24 2

Table 56. White-tailed Deer Population Structure - Provincial Sept-Nov 1983
(Co-operative Wildlife Management Study)

Ecological Zone	NUMBER OF DEER				Males *		Fawns		% Does with Fawns	
	Yearling Males (%)	Mature Males (%)	Does	Fawns	100 Females	100 Females	100 Females	100 Females	Single	Twins Triplets
GRASSLAND	163 (58)	120 (42)	760	815	38	107	53	40	6	
FARMLAND	216 (45)	267 (55)	1151	1234	42	107	49	47	4	
PARKLAND	557 (48)	605 (52)	2692	2565	42	95	58	38	4	
FRINGE	100 (42)	137 (58)	477	432	53	91	58	38	4	
FOREST	135 (53)	122 (47)	512	472	51	82	49	49	2	
TOTAL	1192 (48)	1280 (52)	5658	5624	45	99	54	42	4	

* Males/100 Females = Yearling Males + Mature Males + Unclassified Males/Total Females

Table 57. White-tailed Deer Population Structure - Grassland Sept-Nov 1983
(Co-operative Wildlife Management Study)

New WMZ	NUMBER OF DEER					Males * 100 Females	Fawns 100 Females	% Does with Fawns Single Twins Triplets	
	Yearling Males (%)	Mature Males (%)	Does	Fawns	100 Females				
1	40 (55)	33 (45)	219	248	34	113	61	34	5
2	39 (70)	17 (30)	131	187	44	143	38	49	13
3	0 (0)	3 (100)	5	5	60	100	33	67	0
4	24 (59)	17 (41)	119	102	36	86	45	48	9
5	2 (50)	2 (50)	9	5	44	56	50	50	0
6	10 (59)	7 (41)	62	64	29	103	57	39	4
7	2 (20)	8 (80)	26	27	38	104	42	53	0
8	6 (75)	2 (25)	23	27	35	117	33	44	23
9	14 (54)	12 (46)	48	27	54	56	57	43	0
10	3 (33)	6 (67)	19	19	47	100	71	29	0
11	13 (81)	3 (19)	48	61	33	127	44	56	0
12	—	—	—	—	—	—	—	—	—
13	9 (53)	8 (47)	50	42	34	84	77	23	—
14	1 (33)	2 (67)	1	1	300	100	—	—	—
TOTAL	163 (58)	120 (42)	760	815	38	107	53	41	6

* Males/100 Females = Yearling Males + Mature Males + Unclassified Males/Total Females

Table 58. White-tailed Deer Population Structure - Farmland Sept-Nov 1983
(Co-operative Wildlife Management Study)

New WMZ	NUMBER OF DEER						Males *	Fawns	% Does with Fawns		
	Yearling Males (%)	Mature Males (%)	Does	Fawns	100 Females	100 Females			Single	Twins	Triplets
15	59 (60)	40 (40)	290	352	33	121	42	54	4		
16	13 (13)	30 (70)	137	180	31	131	48	49	3		
17	22 (40)	33 (60)	146	165	38	113	52	42	6		
18	18 (64)	10 (36)	46	44	61	96	59	41	0		
19	16 (36)	29 (64)	85	87	55	102	57	39	4		
20	—	—	—	—	—	—	—	—	—		
21	—	—	—	—	—	—	—	—	—		
22	13 (36)	26 (64)	137	102	55	74	55	41	4		
23	22 (42)	30 (58)	171	162	30	95	49	61	0		
24	0	0	6	4	0	67	100	0	0		
25	0	0	8	7	0	88	50	50	0		
26	1 (100)	0	3	6	33	200	0	100	0		
27	19 (66)	10 (34)	32	39	100	122	52	44	4		
28	4 (29)	10 (71)	14	18	93	129	22	56	22		
29	4 (18)	18 (82)	27	24	81	89	65	29	6		
30	11 (52)	10 (48)	49	44	43	90	52	45	3		
TOTAL	216 (45)	267 (55)	1151	1234	42	107	49	47	4		

* Males/100 Females = Yearling Males + Mature Males + Unclassified Males/Total Females

Table 59. White-tailed Deer Population Structure - Parkland Sept-Nov 1983
(Co-operative Wildlife Management Study)

New WMZ	NUMBER OF DEER					Males * 100 Females	Fawns 100 Females	% Does with Fawns Single Twins Triplets	
	Yearling Males (%)	Mature Males (%)	Does	Fawns					
31	26 (47)	29 (53)	187	179	25	96	55	42	3
32	185 (63)	107 (37)	803	780	37	97	58	37	5
33	44 (56)	34 (44)	220	218	35	99	60	35	5
34	51 (45)	62 (55)	277	233	41	84	64	35	1
35	27 (31)	59 (69)	154	153	56	99	66	34	0
36	8 (47)	9 (53)	45	24	42	53	59	35	6
37	89 (48)	96 (52)	369	344	50	93	53	42	5
38	21 (44)	27 (56)	88	101	55	115	52	46	2
39	39 (40)	59 (60)	169	163	54	96	60	38	2
40	8 (44)	10 (56)	57	46	35	81	66	34	0
41	11 (38)	18 (62)	68	60	44	88	54	41	5
42	9 (31)	20 (69)	66	56	44	85	63	34	3
43	6 (19)	25 (81)	55	60	58	109	74	26	0
44	8 (50)	8 (50)	29	34	59	117	54	33	13
45	23 (46)	27 (54)	77	83	65	108	25	75	0
46	0 (0)	2 (100)	2	2	100	100	100	0	0
47	2 (13)	13 (87)	26	29	57	112	46	46	8
TOTAL	557 (48)	605 (52)	2692	2365	42	95	58	38	4

* Males/100 Females = Yearling Males + Mature Males + Unclassified Males/Total Females

Table 60. White-tailed Deer Population Structure - Fringe Sept-Nov 1983
(Co-operative Wildlife Management Study)

New WMZ	NUMBER OF DEER						Males *	Fawns	% Does with Fawns
	Yearling Males (%)	Mature Males (%)	Does Fawns	100 Females	100 Females	100 Females			
48	31 (65)	17 (35)	91	51	55	56	68	32	0
49	5 (33)	10 (67)	30	22	53	73	61	39	0
50	6 (38)	10 (62)	26	21	65	91	57	36	7
51	10 (50)	10 (50)	35	43	63	123	57	43	0
52	3 (43)	4 (57)	22	10	32	45	50	33	17
53	16 (35)	25 (65)	68	67	60	99	55	42	3
54	13 (30)	30 (70)	64	64	72	100	66	32	2
55	16 (34)	31 (66)	141	154	38	109	46	42	12
TOTAL	100 (42)	137 (58)	477	432	53	91	58	38	4

* Males/100 Females = Yearling Males + Mature Males + Unclassified Males/Total Females

Table 61. White-tailed Deer Population Structure - Forest Sept-Nov 1983
(Co-operative Wildlife Management Study)

New WMZ	NUMBER OF DEER								
	Yearling Males (%)	Mature Males (%)	Does	Fawns	Males * 100 Females	Fawns 100 Females	% Does with Fawns		
							Single	Twins	Triplets
56	28 (44)	35 (56)	115	84	56	82	48	48	4
57	38 (57)	29 (43)	141	134	50	85	53	46	1
58	6 (40)	9 (60)	37	44	41	119	58	38	4
59	18 (64)	10 (36)	47	49	62	104	51	49	0
60	5 (100)	0 (0)	22	23	18	105	60	40	0
61	8 (53)	7 (47)	29	22	55	76	80	20	0
62	1 (33)	2 (67)	6	1	50	17	100	0	0
63	14 (88)	2 (12)	11	13	145	118	0	83	17
64	5 (42)	7 (58)	26	6	46	23	50	50	0
65	0 (0)	0 (0)	1	0	0	0	0	0	0
66	3 (30)	7 (70)	26	27	38	104	20	80	0
67	2 (33)	4 (67)	14	16	43	114	25	75	0
68	5 (63)	3 (37)	28	37	29	132	41	59	0
69	2 (33)	4 (67)	4	4	150	100	0	100	0
70	0 (0)	0 (0)	1	0	0	0	0	0	0
71	—	—	—	—	—	—	—	—	—
72	0 (0)	0 (0)	2	0	0	0	0	0	0
73	0 (0)	3 (100)	2	2	150	100	0	100	1
TOTAL	135 (53)	122 (47)	512	472	51	92	49	49	2

* Males/100 Females = Yearling Males + Mature Males + Unclassified Males/Total Females

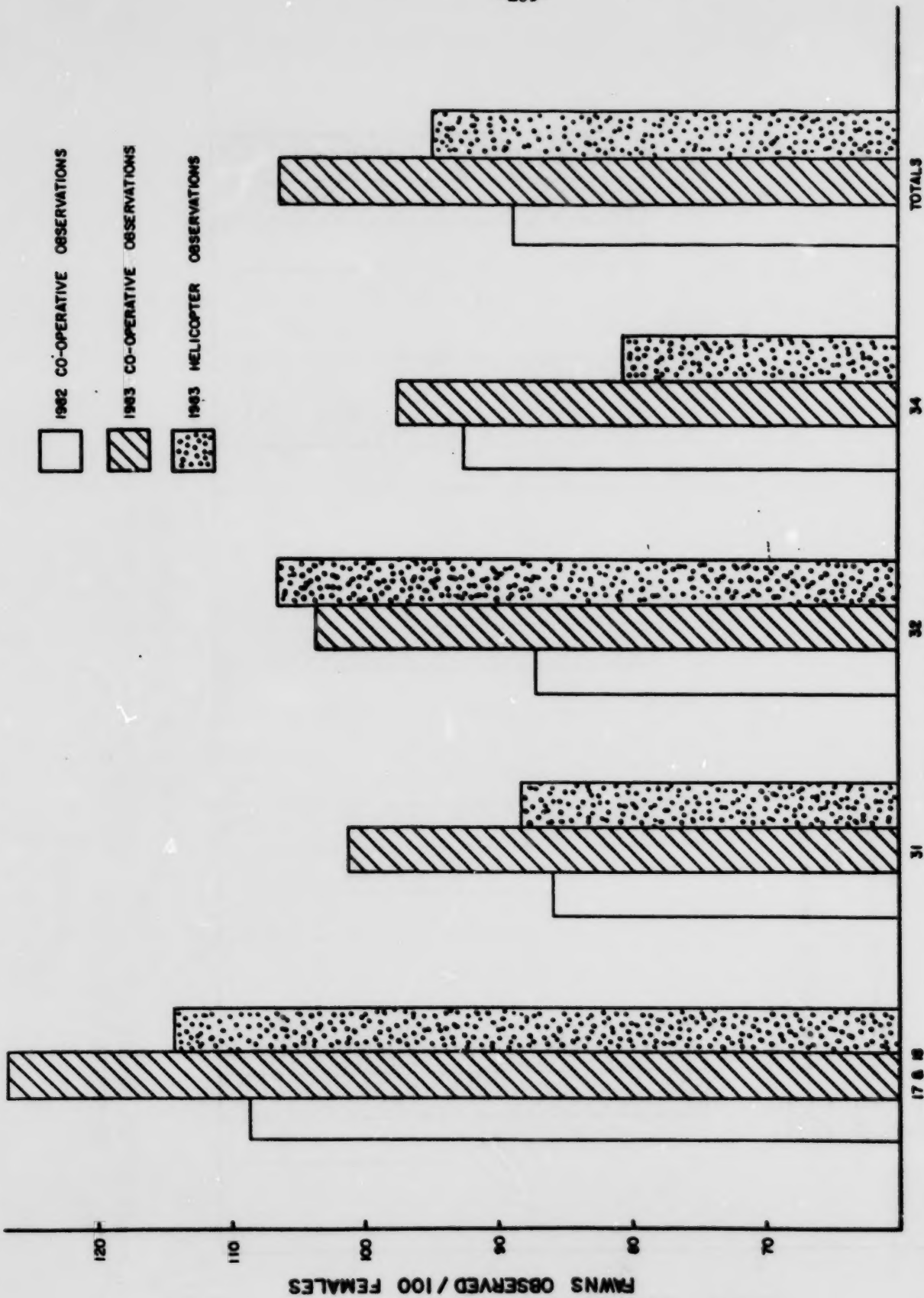


Figure 22. Productivity of White-tailed Deer for Melville Region as determined from 1982-83 Co-operator Observations and 1983 Helicopter Surveys.

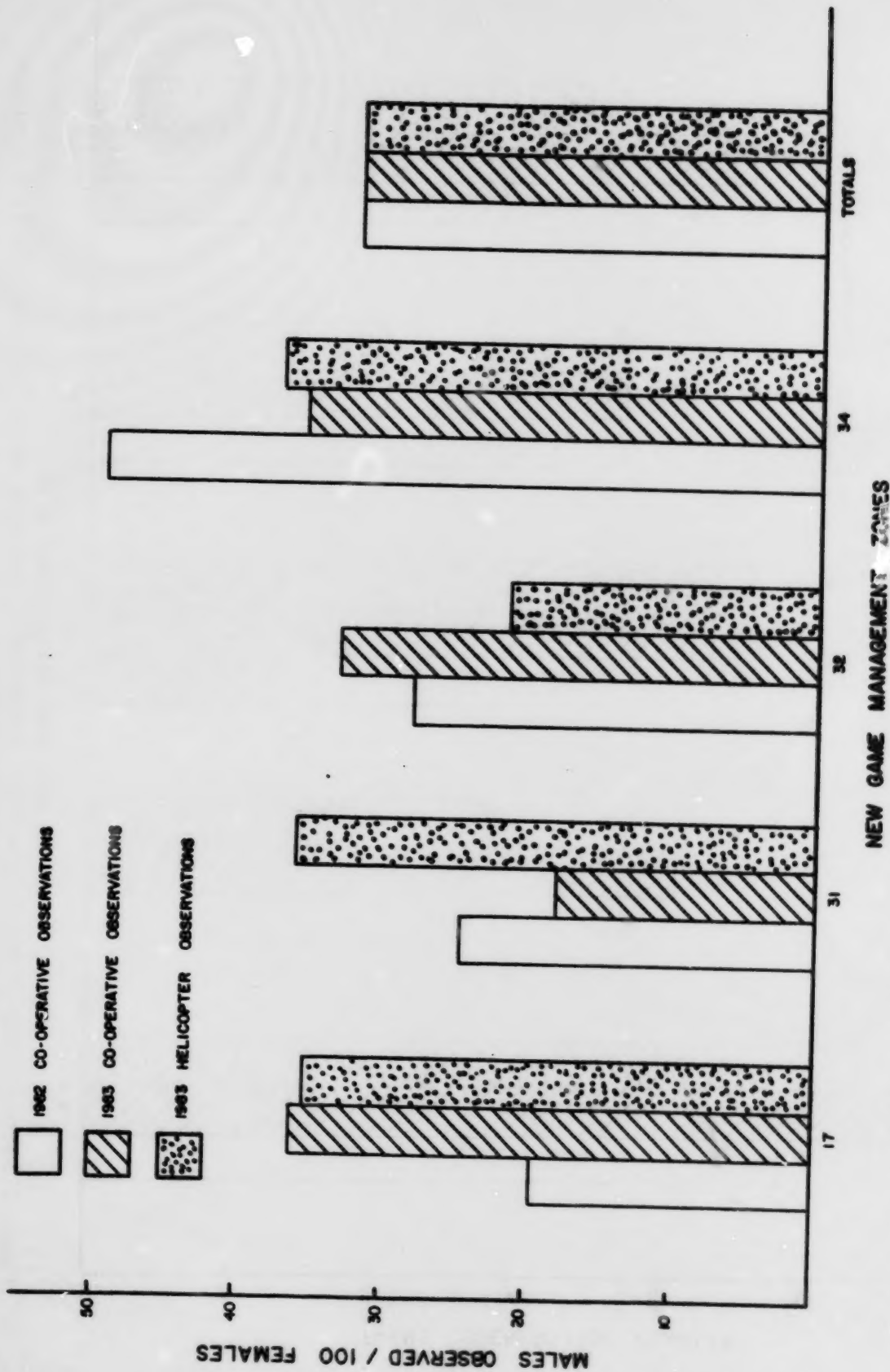


Figure 23. Sex Ratios of White-tailed Deer in Melville Region as determined from 1982-83 Co-operator Observations and 1983 Helicopter Surveys.

SAS
GMZ=01

PERCENTAGE BAR CHART

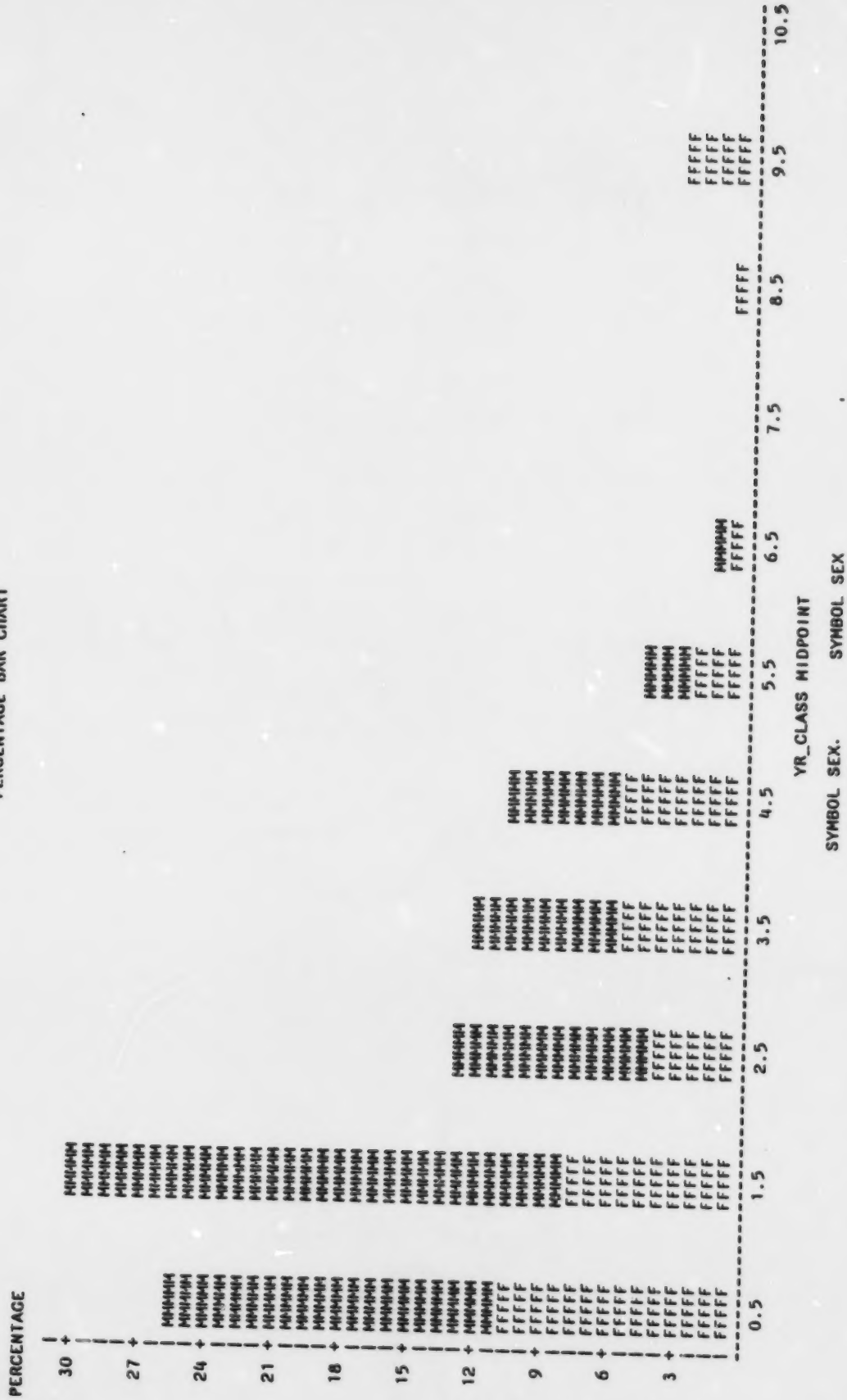


Figure 24. Sex and Age Class Structure of 1983 White-Tailed Deer Harvest in GMZ 7

SAS
GMZ=16
PERCENTAGE BAR CHART

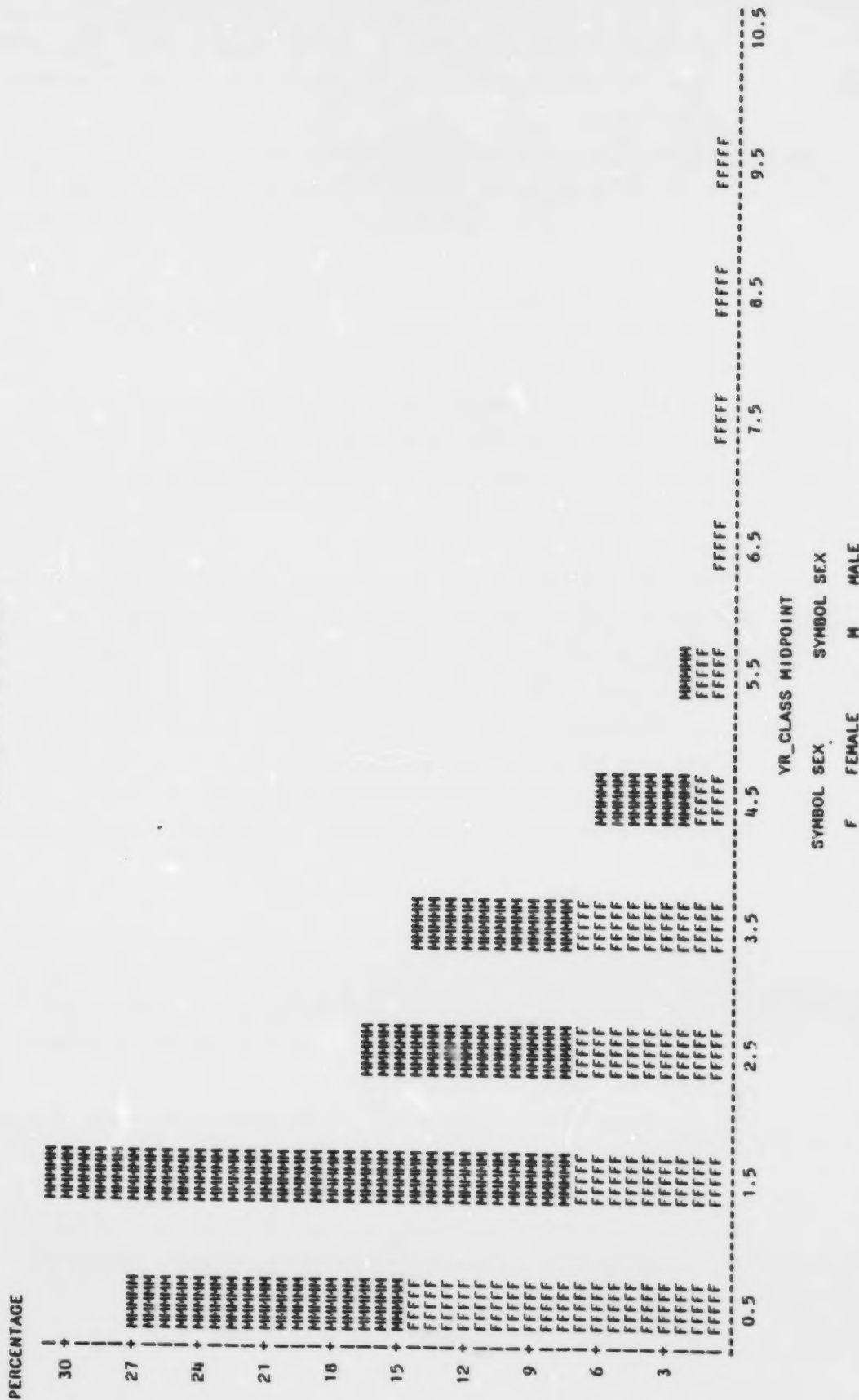


Figure 25. Sex and Age Class Structure of 1983 White-tailed Deer Harvest in GMZ 16

- 90% of 68 landowners interviewed felt the regulation was effective and 13% stated that retention of the regulation would result in a reduction of land posted.
- (b) Bucks-only Regulation, GMZ 18 (New WMZ 37)
 - Large decline in harvest from 1,186 in 1982 to 404 in 1983 (Table 36).
 - 39% of hunters interviewed opposed the regulation compared to 34% in favour and 27% with no opinion.
 - No reports of excessive "illegal" doe harvest.
 - 6/14 bucks checked were classed as mature.
- (c) Licence Fee Increase
 - The fee increase from \$15 to \$25 was expected to impact on hunter participation. Licence sales declined 14% to 55,600.
 - However, recreation days declined less than 1% provincially excluding Zones 7, 16, and 18. These 3 zones alone had more than 5,000 fewer hunters in 1983, accounting for 50% of the provincial decline.
 - The licence fee increases had their greatest impact in the southeast combined with the accompanying vehicle restriction regulation.
- 5. Effect of 1983-84 Winter
 - The 1983-84 winter, as was the 1982-83 winter, was regarded as one of the mildest on record. Most of the province experienced low snowfall and warm post-December temperatures.
 - Mild April 1984 weather induced very early spring leaf flush.
 - Reproduction is expected to be as good or better than reported during 1983.
- 6. Problems
 1. The white-tailed deer population is low in the central Forest Fringe and central forest zones.
 2. Mule deer populations are dominating much of the southwestern Saskatchewan native range to the point where whitetails are being excluded from some small drainages.
 3. The ratios of males/females and mature males/females are low in the extreme southeastern zones although productivity remains high and populations are expected to be high in 1984.
 4. Vehicle controls are popular as a management tool but the loss in recreation-days in the southeast necessitates further evaluation.

C. 1984 MANAGEMENT OBJECTIVES

With the introduction of new wildlife management zones in 1984, only minor changes in season dates and regulations have been implemented in order to allow hunters one year to adjust to the new zone concept.

1. In the Grasslands and western Farmlands, (WMZ 1-14, 24-26), a one deer, one week season will be continued in response to low whitetail numbers and productivity in relation to rapidly expanding mule deer populations.
2. In most of the Commercial Forest (WMZ 56-61, 67-69), an early two week season in addition to the regular three week season will occur with a two deer bag limit in effect. This season extension is intended to encourage hunters to exploit the underutilized deer population in the forest. However, central forest zones (WMZ 62-66) characterized by low populations will have a restricted two week, one deer season in an effort to reduce the harvest.
3. Decreased harvest throughout the province in 1983 should lead to higher deer numbers for the 1984 season. A two week season throughout the remainder of the Farmland, Forest Fringe and central forest (WMZ 15-23, 27-55, 62-66) with a one deer bag limit will be in effect.
4. In WMZ 70-76 (Shield, Northern Forest), there will be a four week season in 1984. Deer populations are widely distributed in this area and harvest pressure is light.
5. The roads and road allowance trails regulation introduced in 1983 met with wide acceptance from hunters and landowners alike. This regulation will be maintained in these areas (WMZ 15-17, 31-34) in 1984 and expanded to include Zones 20 and 30 which surround the cities of Regina and Saskatoon, respectively.
6. The "bucks only" season introduced to WMZ 37 last year will be maintained pending completion of a biological evaluation of its impact on the population.
7. In response to the high reproductive output of white-tailed deer in WMZ's 31 and 32, a special one week antlerless only season will take place December 3-8. Hunting during this season will be permitted on valid 1st deer licences only.

**SUMMARY: APPENDIX 13 OUTLINES THE 1984 WHITE-TAILED DEER
HUNTING REGULATIONS.**

MOOSE

L FOREST ZONES

A. REVIEW OF 1983 HUNTING SEASON

1. Licence Sales

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>
Special	4,150	3,249	3,616	2,355	2,400	2,034	1,967
Regular	8,357	8,856	10,230	11,077	10,542	10,212	7,894
Guided	<u>401</u>	<u>394</u>	<u>355</u>	<u>284</u>	<u>290</u>	<u>281</u>	<u>212</u>
TOTAL	12,908	12,499	14,201	13,716	13,232	12,527	10,073

2. Harvest

- Northern moose harvest was 2,113 compared to 2,554 in 1982 (Tables 63, 64; Figure 26).
- 579 moose were taken in the special seasons and 1,534 during the regular seasons.
- Hunter-days recreation declined by 4% to 6,892 for the special season (Table 65) and 23% to 30,846 for the regular season (Table 66).
- The number of active regular hunters declined 20% in 1983.
- Harvest was highest during the first week of the late regular (Table 67) and late special seasons (Table 68).
- The sex and age information reported on hunter questionnaires resulted in a harvest estimate of 59% bulls, 10% cows, and 31% calves (Tables 69-71; Figure 26, Appendix 20).
- The check station sample was comprised of 36% mature bulls, 15% mature cows, 26% yearlings and 23% calves (Table 72; Figures 27, 28; Appendix 21).
- The mean age of bulls and cows in the check station sample was similar to that recorded in 1982 (Table 73).
- Hunter questionnaire returns and success by zone for regular and special licence holders are given in Appendices 22 and 23.

Table 61. Regular Season Moose Harvest 1979-1983

Zone	Harvest					Percent Hunter Success				
	1979	1980	1981	1982	1983	1979	1980	1981	1982	1983
23	713	1,124	495	644	595	25	38	18	25	24
24	214	218	59	155	100	20	26	6	17	15
25	237	343	112	89	121	25	34	13	11	18
26	114	385	172	228	106	13	37	18	22	15
27	202	192	41	65	50	34	45	15	16	23
28	143	285	153	89	111	13	25	14	10	18
29	79	109	59	24	25	21	28	24	8	14
30	180	310	99	203	95	21	32	11	19	15
31	209	251	132	171	85	28	35	20	19	17
32	194	335	224	228	121	22	34	23	19	24
33	42	151	54	138	60	16	34	20	29	26
34	50	56	27	32	25	24	26	21	22	22
35	21	58	13	16	10	14	32	15	13	14
36	79	142	7	8	15	37	40	6	10	18
37	14	67	21	8	0	18	80	43	33	0
Total	2,519	4,028	1,668	2,098	1,534	26	39	18	23	22

Table 64. Special Season Moose Harvest 1979-1983

Zone	Licences Allotted					Harvest					Percent Hunter Success				
	1979	1980	1981	1982	1983	1979	1980	1981	1982	1983	1979	1980	1981	1982	1983
23	503	451	400	453*		225	247	130	185	169	46	59	37	41	56
24	401	400	402	400		102	207	54	98	91	26	56	15	25	26
25	401	201	300	301		150	94	69	36	95	38	50	26	12	34
26	200	200	201	200		84	121	64	59	80	43	65	36	30	44
27	184	100	102	100		82	37	41	25	33	46	40	45	25	38
28	200	0	0	0		53	---	---	---	---	27	0	0	---	---
29	200	0	0	0		55	---	---	---	---	28	0	0	---	---
30	525	400	400	100		141	131	61	21	13	27	35	17	21	17
31	102	0	0	0		49	0	---	---	---	49	0	0	---	---
32	800	502	504	202		355	227	128	32	98	45	49	29	16	47
33	100	101	100	0		40	60	10	---	---	41	64	22	---	---
Total	3,616	2,355	2,409	1,756		1,336	1,124	579	456	579	40	51	27	26	37

* Includes Zone 23G.

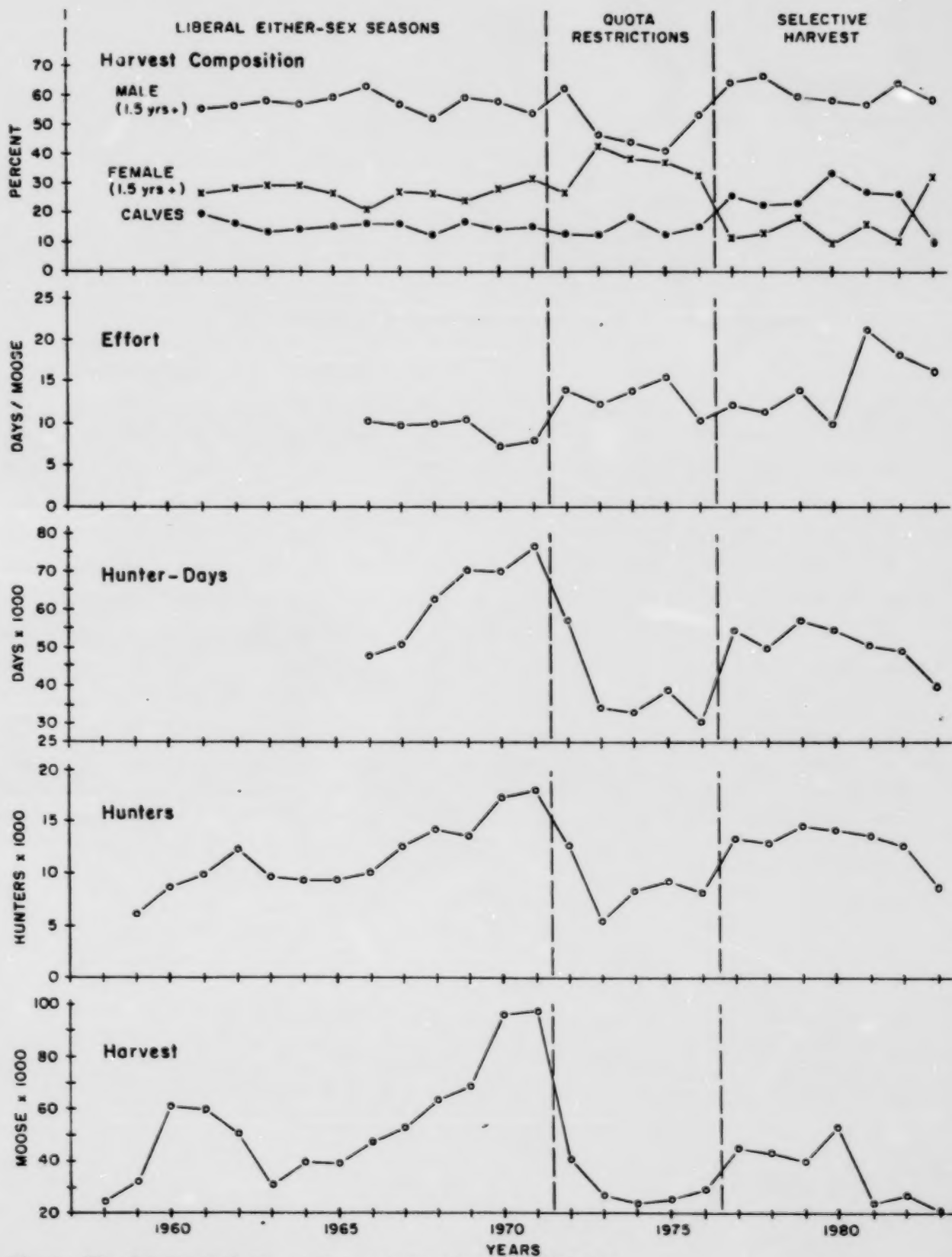


Figure 26. Provincial Moose Harvest Statistics 1958-83

Table 65. Special Season Moose Hunting Pressure 1979-1983

Old Zone	Hunter Days					Hunter Days/Sq. Km Habitat					Hunter Days/Animal				
	1979	1980	1981	1982	1983	1979	1980	1981	1982	1983	1979	1980	1981	1982	1983
23	2,274	2,087	1,533	1,734	1,528	0.3	0.2	0.2	0.2	0.2	10.1	8.4	3.8	8.8	9.4
24	1,503	1,231	1,511	1,446	1,720	0.3	0.2	0.3	0.3	0.3	14.7	5.9	3.8	12.8	18.9
25	1,528	879	980	1,222	1,370	0.5	0.3	0.3	0.4	0.4	10.2	9.4	3.3	29.1	14.4
26	835	706	802	1,040	773	0.2	0.2	0.2	0.3	0.2	9.9	5.8	4.0	15.3	9.7
27	863	353	229	372	299	0.09	0.03	0.02	0.04	0.03	10.5	9.5	2.2	13.3	9.1
28	812	0	0	0	0	0.08	0.0	0.0	0.0	0.0	15.3	0.0	0.0	0.0	0.0
29	628	0	0	0	0	0.05	0.0	0.0	0.0	0.0	11.4	0.0	0.0	0.0	0.0
30	2,084	1,572	1,280	471	367	0.28	0.21	0.17	0.06	0.05	14.8	12.0	3.2	18.1	28.2
31	419	0	0	0	0	0.04	0.0	0.0	0.0	0.0	8.6	0.0	0.0	0.0	0.0
32	3,487	1,793	1,897	857	835	0.52	0.27	0.28	0.13	0.10	9.8	7.9	3.8	23.8	8.5
33	294	219	424	0	0	0.03	0.02	0.05	0.0	0.0	7.4	3.7	4.2	0.0	0.0
Total	14,727	8,840	8,656	7,142	6,892	0.16	0.10	0.10	0.08	0.15	11.0	7.9	3.6	15.7	11.9

* 1983 Area = 119,627 Km²

Table 66. Regular Season Moose Hunting Pressure 1979-1983

Old Zone	Hunter Days				Hunter Days/Sq. Km Habitat				Hunter Days/Animal			
	1980	1981	1982	1983	1980	1981	1982	1983	1980	1981	1982	1983
23	12,805	11,252	10,446	11,235	1.4	1.3	1.2	1.3	11.4	22.7	16.2	18.9
24	3,520	3,515	3,239	2,532	0.7	0.7	0.6	0.5	16.1	59.6	20.9	25.3
25	4,103	3,378	4,023	2,615	1.3	1.1	1.3	0.8	12.0	30.1	45.2	21.6
26	3,457	3,599	3,762	2,782	0.8	0.8	0.8	0.7	9.0	20.9	16.5	26.2
27	570	843	1,228	702	0.06	0.1	0.1	0.1	3.0	20.6	18.9	14.0
28	4,637	4,174	3,044	2,262	0.4	0.4	0.3	0.2	16.3	27.3	34.2	20.4
29	1,122	693	912	714	0.08	tr.	tr.	tr.	10.3	11.7	38.0	28.6
30	3,728	3,808	3,065	2,238	0.5	0.5	0.4	0.3	14.9	38.5	15.1	23.6
31	2,389	2,673	3,181	1,876	0.2	0.2	0.3	0.2	9.5	20.3	18.6	22.1
32	3,626	3,759	4,309	1,834	0.54	0.6	0.6	0.3	10.8	16.8	18.9	15.2
33	1,437	787	1,601	745	0.2	0.1	0.2	0.1	9.5	14.6	11.6	12.4
34	726	477	499	397	0.02	tr.	tr.	tr.	12.5	17.7	15.6	15.9
35	930	360	371	457	0.1	tr.	tr.	tr.	16.0	27.7	23.2	45.7
36	774	520	244	321	0.01	tr.	tr.	tr.	5.5	74.3	30.5	21.4
37	218	190	80	136	0.001	tr.	tr.	tr.	3.3	9.0	10.0	***
Total	44,042	40,028	40,004	30,846	0.12	0.11	0.11	0.09	11.3	24.0	19.1	20.1

*** Hunter days divided by 0 moose is invalid mathematically.

Table 67. Regular Season Moose Harvest and Hunter-Days Recreation by Week, 1983

Week Beginning	Harvest	% Success	% of Regular Season Harvest	Hunter-Days	% of Total Hunter-Days
September 5	10	11	0.7	283	0.9
September 12	10	9	0.7	330	1.1
September 19	60	22	4.0	882	2.9
October 3	15	50	0.9	53	0.2
October 10	426	17	27.9	8,107	27.1
October 17	20	26	1.3	175	0.6
November 7	60	26	4.0	705	2.4
November 14	45	28	2.9	408	1.4
November 21	658	16	43.1	14,223	47.5
November 28	221	15	14.4	4,772	15.9
Total	1,525		100.0	29,938	100.0

Table 68. Special Season Moose Harvest and Hunter-Days Recreation by Week, 1983

Week Beginning	Harvest	% Total Harvest	Hunter-Days	% Hunter-Days
September 19	167	32.6	2,334.44	35.4
November 7	208	40.7	2,865.26	43.4
November 14	136	26.7	1,402.15	21.2
Total	511	100.0	6,601.85	100.0

Table 69. Reported Composition of Combined Moose Harvest 1980-1983

Old Zone	Bulls				Cows				Calves			
	1980	1981	1982	1983	1980	1981	1982	1983	1980	1981	1982	1983
23	62.9	48.5	45.1	54.2	20.8	23.1	28.4	10.3	16.3	28.2	26.5	35.5
24	64.3	41.9	41.7	82.1	21.4	45.1	37.5	0.0	14.3	12.9	20.8	17.9
25	63.8	44.1	50.0	50.0	20.7	30.2	23.7	19.8	15.5	25.5	26.3	30.2
26	56.7	46.2	59.1	65.3	21.6	31.4	25.8	19.7	21.6	22.2	15.1	15.0
27	70.8	23.8	41.7	61.3	12.5	42.8	50.0	13.4	16.7	33.3	8.3	25.3
28	74.1	68.1	66.7	59.0	0.0	0.0	0.0	0.0	25.9	31.8	33.3	41.0
29	88.9	77.7	100.0	80.0	0.0	0.0	0.0	0.0	11.1	22.2	0.0	20.0
30	56.4	47.3	58.3	57.9	16.4	23.6	22.2	7.6	27.3	28.9	19.5	34.5
31	89.3	80.0	79.1	75.0	0.0	0.0	0.0	0.0	10.7	20.0	20.9	25.0
32	59.2	35.1	47.3	48.8	22.4	30.8	14.5	13.3	18.4	34.0	38.2	37.9
33	68.0	42.1	77.8	66.7	24.0	42.1	0.0	0.0	8.0	15.7	22.2	33.3
34	100.0	62.5	75.0	60.0	0.0	0.0	0.0	0.0	0.0	37.5	25.0	40.0
35	100.0	50.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	100.0
36	80.0	100.0	100.0	100.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0
37	85.7	33.3	100.0	0.0	0.0	0.0	0.0	0.0	14.3	66.7	0.0	0.0
Total	64.7	57.0	51.2	58.8	18.0	26.0	25.3	9.9	17.3	27.0	23.5	31.3

Table 70. Reported Composition of Regular Season Moose Harvest 1979-1983

Old Zone	Percent Bulls					Percent Calves				
	1979	1980	1981	1982	1983	1979	1980	1981	1982	1983
23	71.7	80.3	63.3	62.6	59.7	28.3	19.8	36.7	37.4	40.3
24	83.3	88.9	62.5	70.6	75.0	16.7	11.1	37.5	29.4	25.0
25	81.8	85.3	68.7	70.0	56.5	18.2	14.7	31.3	30.0	43.5
26	93.8	72.5	72.0	85.8	85.0	6.2	27.5	28.0	14.2	15.0
27	71.4	80.0	50.0	85.7	66.7	28.6	20.0	50.0	14.3	33.3
28	75.0	74.1	68.1	81.8	59.0	25.0	25.9	31.9	18.2	41.0
29	63.6	88.9	77.7	100.0	80	26.4	11.1	22.3	0.0	20.0
30	44.0	70.0	83.3	74.1	63.1	56.0	30.0	16.7	25.9	36.9
31	72.4	89.3	80.0	81.2	75.0	27.6	10.7	20.0	18.8	25.0
32	59.3	84.8	60.6	37.0	50.0	40.7	15.1	39.4	63.0	50.0
33	83.3	88.2	62.5	82.4	66.7	16.7	11.8	37.5	17.6	33.3
34	100.0	100.0	25.0	100.0	60.0	0.0	0.0	75.0	0.0	40.0
35	33.3	100.0	50.0	100.0	0.0	66.7	0.0	50.0	0.0	100.0
36	81.8	80.0	100.0	100.0	100	18.2	20.0	0.0	0.0	0.0
37	50.0	85.7	33.3	100.0	---	50.0	14.3	66.7	0.0	---
Total	74.3	81.3	65.0	72.2	63.4	25.7	18.7	34.0	27.8	36.6

Table 71. Reported Composition of Special Season Moose Harvest 1979-1983

Old Zone	Bulls					Cows					Calves				
	1979	1980	1981	1982	1983	1979	1980	1981	1982	1983	1979	1980	1981	1982	1983
23	38.8	36.6	32.8	31.2	33.7	42.9	52.1	47.7	54.2	48.0	18.3	11.3	19.5	14.6	18.3
24	32.3	52.6	34.7	31.4	59.0	58.8	31.6	60.8	49.0	38.5	8.9	15.8	4.5	19.6	2.5
25	38.2	33.3	29.6	36.4	41.3	45.5	50.0	48.1	36.4	45.9	16.3	16.7	22.3	27.2	12.8
26	51.5	38.2	24.1	37.1	38.3	33.3	47.1	58.6	48.6	46.5	15.2	14.7	17.3	14.3	15.2
27	35.5	25.0	17.6	23.1	53.3	51.6	75.0	52.9	76.9	33.3	12.9	0.0	29.5	0.0	13.4
28	22.2	---	---	---	---	55.6	---	---	---	---	22.2	---	---	---	---
29	43.8	---	---	---	---	43.8	---	---	---	---	12.4	---	---	---	---
30	32.6	40.0	34.7	40.0	16.6	58.7	36.0	39.1	60.0	66.8	8.7	24.0	26.2	0.0	16.6
31	34.8	---	---	---	---	39.1	---	---	---	---	26.1	---	---	---	---
32	29.8	39.5	21.3	22.2	47.2	54.2	39.5	46.0	44.4	30.7	16.0	20.9	32.7	33.4	22.1
33	25.0	25.0	27.2	---	---	58.3	75.0	72.8	---	---	16.7	0.0	0.0	---	---
Total	35.1	39.6	27.0	31.4	42.6	49.4	45.7	50.0	49.6	42.6	15.5	14.7	21.0	19.0	14.8

SAS
TABLE OF SEX BY AGE YEAR

SEX	AGE_YEAR	FREQUENCY	PERCENT	ROW PCT	COL PCT	1	0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5	9.5	10.5	TOTAL
F	17	84	10.92	4.55	30	16	2.08	3.90	1.17	9	15	0.91	7	0.65	5	0.78	13	237
	.	35.44	14.77	12.66	6.75	18.82	7.17	24.59	26.47	40.48	48.39	38.89	2.95	2.11	41.67	2.53	1.69	30.82
	.	46.93	17.59													40.00	40.63	
M	71	87	11.31	21.20	92	68	3.12	11.96	3.25	24	16	1.43	11	0.91	7	1.17	19	521
	.	16.70	31.29	17.66	13.05	80.00	4.61	75.41	4.80	57.14	73.53	51.61	2.11	1.34	58.33	1.73	2.47	67.75
	.	48.60	81.91											61.11		60.00	59.38	
U	0	8	1.04	0.13	0	1	0.13	0.00	0.00	1	0	0	0	0	0	0	0	11
	.	72.73	9.09	0.00	9.09	0.13	0.13	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.43
	.	4.47	0.50	0.00	0.00	1.18	2.38	0.00	0.00	2.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
TOTAL	.	179	199	122	15.86	85	42	34	4.42	5.46	4.42	31	18	2.34	12	1.95	32	769
	.	23.28	25.88			11.05	5.46	4.42				4.03		2.34	1.56		4.16	100.00

Table 72. Sex and Age Structure of Provincial Moose Harvest, 1983.

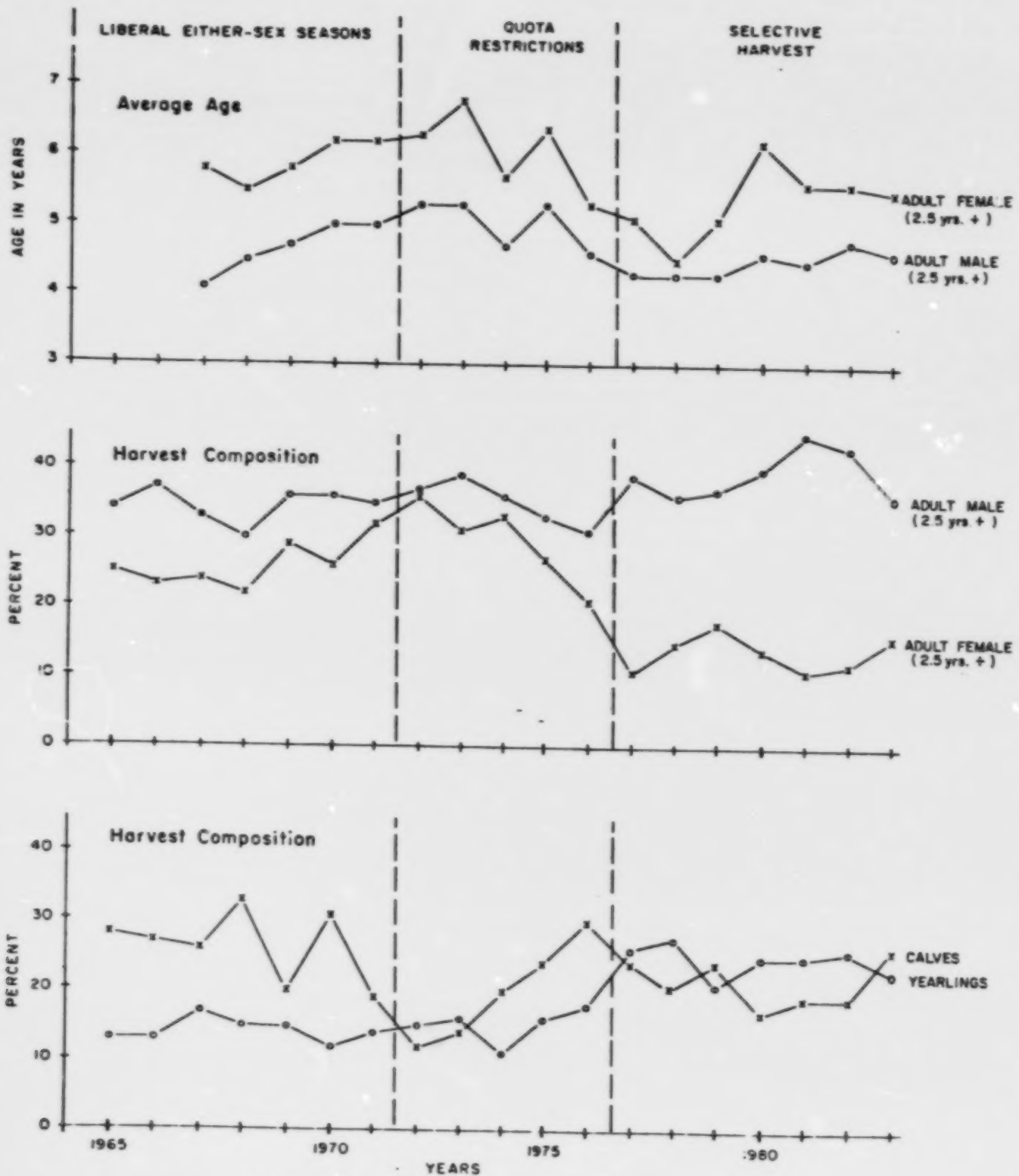


Figure 27. Provincial Check Station Moose Harvest Statistics 1958-83.

MOOSE SEX AGE STRUCTURE 1983 FROM CHECKSTATION
PERCENTAGE BAR CHART

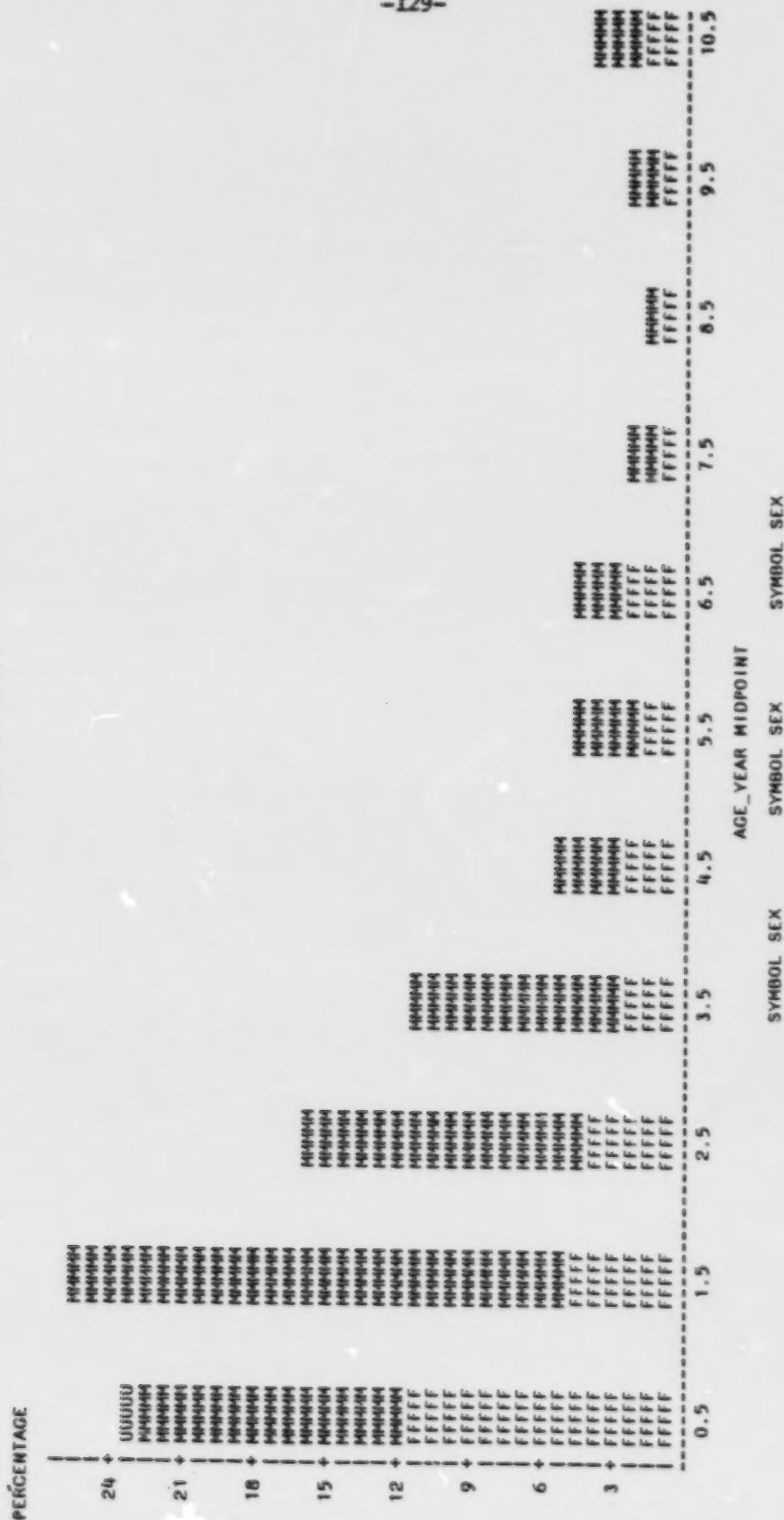


Figure 28. Sex and Age Structure of Provincial Moose Harvest Index Trends 1983.

Table 73. Age Proportions of Adults in Moose Harvest 1978-1983

Age Class	1978		1979		1980		1981		1982		1983	
	Cows n=105	Bulls n=300	Cows n=99	Bulls n=238	Cows n=89	Bulls n=277	Cows n=58	Bulls n=247	Cows n=98	Bulls n=285	Cows n=153	Bulls n=434
1 1/2	0.28	0.29	0.20	0.34	0.25	0.23	0.26	0.26	0.20	0.28	0.23	0.38
2 1/2	0.23	0.25	0.23	0.21	0.18	0.21	0.10	0.19	0.16	0.21	0.20	0.22
3 1/2	0.11	0.19	0.11	0.18	0.10	0.17	0.16	0.19	0.14	0.14	0.10	0.16
4 1/2	0.13	0.09	0.14	0.12	0.07	0.14	0.14	0.11	0.08	0.11	0.11	0.06
5 1/2	0.08	0.05	0.06	0.04	0.03	0.09	0.03	0.08	0.11	0.08	0.06	0.06
6 1/2	0.07	0.04	0.06	0.04	0.09	0.06	0.07	0.08	0.08	0.04	0.10	0.04
7 1/2	0.04	0.02	0.05	0.01	0.03	0.04	0.12	0.03	0.06	0.04	0.05	0.02
8 1/2	0.05	0.04	0.07	0.01	0.01	0.02	0.00	0.04	0.03	0.03	0.03	0.02
9 1/2	0.00	0.01	0.02	0.02	0.06	0.02	0.03	0.01	0.04	0.05	0.04	0.02
10 1/2+	0.01	0.02	0.06	0.03	0.18	0.02	0.09	0.01	0.10	0.02	0.08	0.04
Mean Age (2.5 yrs+)	4.5	4.3	5.1	4.3	6.2	4.6	5.6	4.5	5.6	4.8	5.5	4.6

B. POPULATION STATUS

1. Density: Transect Surveys

- Moose population estimates were significantly lower than in recent years based on the 1983-84 winter survey (Table 74, Figure 29).
- Population trends were higher in the Leaf Lake, Waterhen-Keeley, Bronson, and Divide blocks, stable in Pine Bluff and Connell Creek and lower in the remaining 9 areas.
- The downward population trend was most dramatic in the east (old Zone 23) and central portions (old Zones 28 and 33) of the province.

2. Density: Quadrat Surveys

- Intensive aerial surveys were conducted in the Woody Lake Game Preserve, Porcupine Forest, Cumberland South, and central Forest Fringe areas (Table 75).
- Cumberland South had 0.73 ± 0.15 moose/km² which was 1.7X the transect estimate.
- The Thunder Hills area had 0.3 ± 0.08 moose/km² which was only 9% higher than the 1983 estimate.
- The Cub Hills (Fishing Lakes Burn) population estimate of 0.24 ± 0.07 moose/km² was up 22% and significantly higher than the quadrat survey estimate of the previous year.
- Porcupine Forest survey had 0.88 ± 0.13 moose/km² which was 2.7X the transect estimate.
- Woody Lake Game Preserve survey had 0.60 ± 0.12 moose/km² in the Dec-Jan survey but only 0.13 ± 0.01 moose/km² in late March - early April survey.
- A central Forest Fringe survey of the first 25 km of forest north of the forest boundary between the Torch River and Prince Albert resulted in an estimate of 0.19 ± 0.03 moose/km², about 2X the transect survey.

3. Population Structure: Aerial Surveys

- 1,825 moose were classified by sex and age class from helicopter for the 12 new WMZ's providing an estimate of 42 bulls and 43 calves/100 cows compared to 45 bulls and 41 calves/100 cows based on 1,169 animals in 1982-83 (Table 76).
- The 1983-84 calf/cow ratio was significantly higher in WMZ 61 (old Zone 27) compared to 1982-83 ($X^2=3.36$, $p<0.1$).
- The 1983-84 bull/cow ratio was significantly lower ($X^2=3.26$, $p\leq 0.1$) in WMZ 67 (old Zone 30) and WMZ 68 (old Zone 32) ($X^2=1.94$, $p\leq 0.17$) than observed in 1982-83.

Table 74. Moose Densities In Aerial Transect Survey Blocks, 1973-1984

Area	Old Zone	Sq. Km	Moose/km ²												1973-84 Average	Change from last Survey(%)	Change from Average(%)	
			1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984				
Porcupine East	23	284.9	---	---	---	0.33	0.62	0.22	0.38	0.48	0.47	0.36	0.58	0.28	0.43	---	-52	-35
Porcupine West	23	201.0	---	0.49	0.61	0.50	0.49	0.42	0.94	0.59	0.47	0.54	0.68	0.39	0.57	---	-43	-32
Leaf Lake	24	323.7	---	---	---	0.25	0.49	0.53	0.44	0.29	0.29	0.50	0.36	0.40	0.39	---	+11	N/C
Greenwater	23	42.7	---	0.75	0.19	0.33	0.44	0.14	0.28	0.28	0.21	0.19	0.89	0.37	0.37	---	-63	-11
Cumberland South	26	375.5	0.29	0.53	0.49	0.56	0.50	0.50	0.59	0.52	0.49	---	0.49	0.43	0.49	---	-12	-12
Cumberland Central	27	106.2	0.41	0.65	0.34	0.39	0.62	0.47	0.50	0.39	0.73	0.41	0.37	0.32	0.48	---	-14	-33
Pine Bluff	27	119.1	0.86	0.93	0.97	0.98	0.66	1.21	1.17	0.77	0.91	0.94	0.81	0.83	0.92	---	N/C	-10
Elaine Lake *	31	308.7	0.11	0.12	0.14	0.07	0.12	0.09	0.18	---	---	---	---	---	---	---	---	---
Connell Creek ***	25	116.5***	---	---	---	---	---	---	---	1.20	1.18	0.71	0.68	0.65	0.94	---	-4	-31
		75.1																
White Swan	29	205.9	---	---	0.25	0.10	0.11	0.13	0.18	---	---	---	---	---	---	---	---	---
Candle Lake East	28	251.2	0.15	0.10	0.15	0.09	0.24	0.15	0.17	0.08	0.15	---	0.12	0.04	0.14	---	-67	-71
Torch River	28	196.8	---	---	---	0.25	0.20	0.34	0.26	0.21	0.21	0.18	0.25	0.10	0.23	---	-60	-56
Dore South	31	626.8	0.14	0.22	0.14	0.14	0.23	0.13	0.32	0.27	0.19	0.17	0.13	0.07	0.18	---	-46	-61
Waterton-Keeley **	33	353.5**	0.22	0.25	0.20	0.14	0.27	0.24	0.28	0.33	0.21	---	---	---	0.24	---	---	+11
		471.4																
Cold Lake	33	248.6	0.37	0.29	0.22	0.23	0.31	0.26	0.34	0.30	0.29	---	0.20	0.13	0.28	---	-35	-54
Divide	30	422.2	0.19	0.24	0.33	0.34	0.42	0.28	0.53	0.46	0.39	0.27	0.19	0.30	0.33	---	+58	-9
Bronson	32	392.1	---	0.54	0.49	0.51	0.59	0.62	0.51	0.56	0.42	---	0.24	0.49	0.49	---	+104	N/C
Meadow Lake Park	33	398.5	---	---	---	---	---	---	---	---	---	0.23	---	---	---	---	---	---

* Not included in average. ** Revised Survey in 1980. *** Revised Survey in 1981

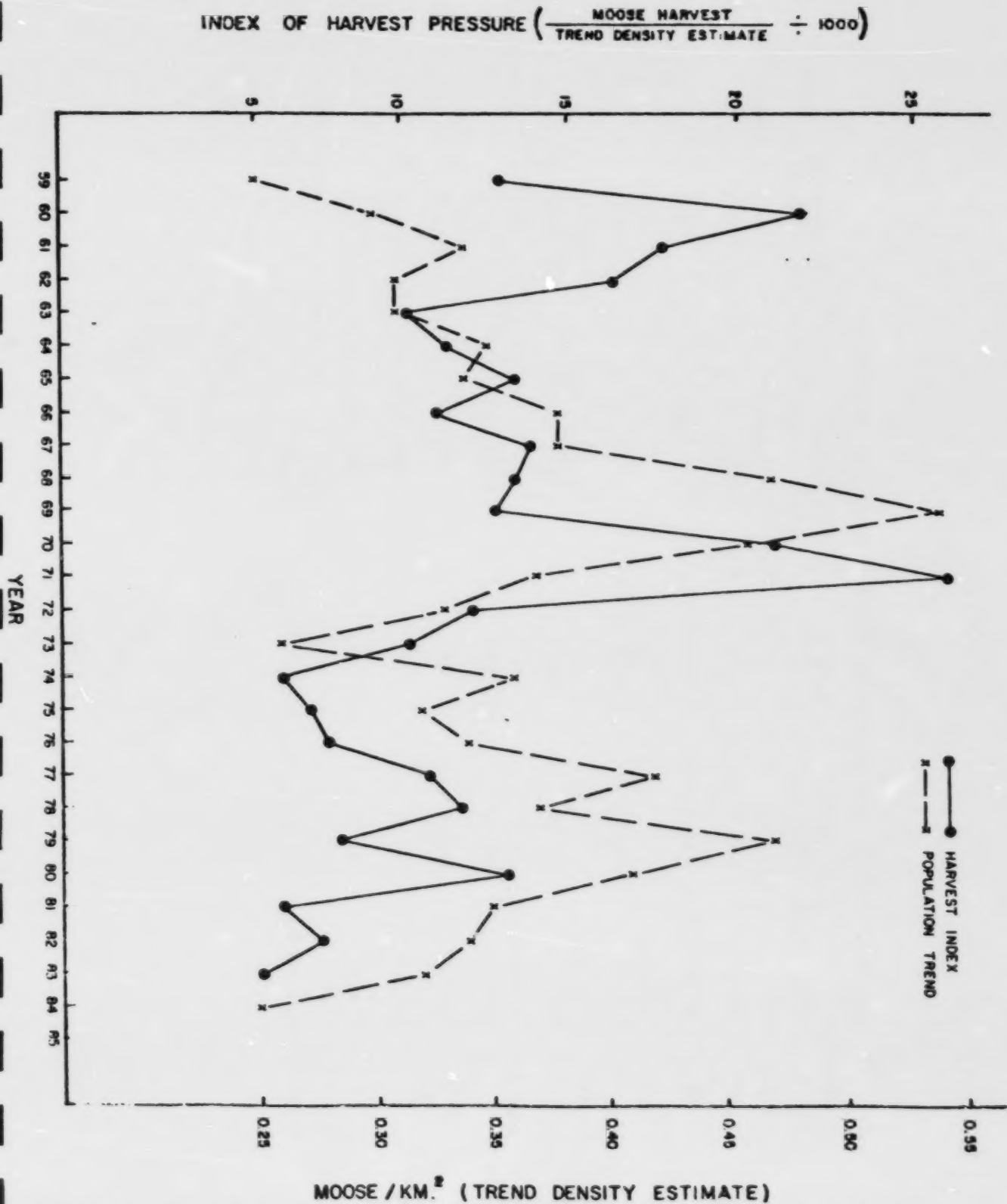


Figure 29. Moose Transect Population Estimate and Harvest Index Trends 1959-84.

Table 75. 1983-84 Moose Population Estimates (Stratified Random Block Sampling)

New WMZ	Survey Block	Date	Area ₂ (Km ²)	Moose /Km ²	1983-84 Population Estimate $\pm 95\%$ C.I.	1982-83 Population Estimate $\pm 95\%$ C.I.
57	Woody Hills	Dec 83-Jan 84	1134	0.60	686 $\pm$ 135	N/A
57	Woody Hills	Mar-Apr 84	1134	0.13	146 $\pm$ 14	N/A
56, 57	Porcupine Forest	Jan-Feb 84	3512	0.88	3092 $\pm$ 472	N/A
60	Cumberland South	Jan 84	2266	0.73	1657 $\pm$ 345	N/A
62, 63, 64	Central Forest Edge	Mar 84	2222	0.19	412 $\pm$ 73	N/A
63 *	Cub Hills	Jan 84	812	0.24	194 $\pm$ 56	159 $\pm$ 51
66	Thunder Hills	Jan 84	337	0.31	106 $\pm$ 28	97 $\pm$ 21
33 *	Moose Mtn	Jan 84	673	0.55	370 $\pm$ 69	426 $\pm$ 85

* 1984 population estimates significantly different from 1983 estimates.

Table 76. 1983-84 Moose Sex and Age Helicopter Observations

New WMZ						1982-83			
	Males	Females	Calves	Males/ 100 Females	Calves/ 100 Females	Old GMZ	n	Males/ 100 Females	Calves/ 100 Females
56	13	28	16	46	57				
57	4	43	26	9	60	23	125	39	67
58	13	37	12	35	32				
59	32	66	26	48	39	25	125	49	35
60	120	235	76	51	32	26	280	47	29
61	100	218	101	46	46	27	326	43	32
63	0	11	5	0	45				
64	8	18	11	44	61				
65	42	76	16	55	21	31	17	44	44
67	30	91	46	33	51	30	82	59	36
68	34	123	64	28	52	32	167	41	53
69	16	42	26	38	62	33	74	58	67
Commercial Forest	412	988	425	42	43				
Total							1169	45	41

- Low calf/cow ratios persist in WMZ's 58-63, 66 and is believed to be caused in part by neonatal calf predation by black bears.
- 4. Population Structure: Co-operative Wildlife Management Study Observations
 - Only 308 moose were classified province-wide producing an estimate of 93 males and 46 calves/100 females. The ratio of bulls observed is significantly higher than could be confirmed from aerial census work which largely reflects activity of males during September and October when many of these animals were observed.

SUMMARY: MOOSE POPULATIONS ARE IN A DOWNWARD POPULATION TREND AND SEVERAL AREAS PARTICULARLY IN THE CENTRAL AND EAST-CENTRAL PORTIONS OF THE MOOSE RANGE REQUIRE MANAGEMENT ACTION.

C. 1984 MANAGEMENT OBJECTIVES

1. Hold the line on special season quotas to provide a high level of protection to the breeding cow population.
2. Keep the regular season to one week in Zone 68 and two weeks in Zone 67 to allow further population recovery.
3. Expand efforts to control predators in the central and east-central portions of the province where moose populations are very low. Liberalize bear hunting regulations in WMZ's 58-61 during the fall hunting season.
4. Conduct an experimental spring black bear control project in WMZ 60 to evaluate the effectiveness and efficiency of new techniques.
5. The continuing decline of moose populations in the central part of the province (WMZ's 53, 63-66) are cause for concern. More than 1,000 sport hunters invested 4,400 recreation days hunting moose in these zones in 1983. Of the number of options available, the following course of action will be taken for the 1984 season: Maintain the regular bulls and calves only season as in the past, continue with road corridor game preserves and access road closures of the Moose Restoration Program. The moose population in these zones is low but harvest of bulls and calves can be tolerated.

SUMMARY: APPENDIX 13 OUTLINES THE 1984 MOOSE HUNTING REGULATIONS.

II. SPECIAL SOUTHERN AREAS

A. REVIEW OF 1983 HUNTING SEASON

1. Moose Mountain Park (WMZ 33) (old Zone 16)
 - no hunting season in 1983
2. Cypress Hills Park (WMZ's 6 & 7) (old Zones 3 & 4)
 - no hunting season in 1983
3. Thickwood Hills (WMZ 44) (old Zone 22)
 - no hunting season in 1983
4. Fort a la Corne WMU (WMZ 50) (in old Zone 21) (Licence quota = 100)
 - estimated harvest was 36 moose
 - hunter success was 41% (Table 77)
5. Duck Mountain Park (WMZ 37) (old Zone 18) (Licence quota = 100)
 - estimated harvest was 32 moose
 - hunter success was 32% (Table 77)
6. Greenwater Park (WMZ 56) (in old Zone 23) (Licence quota = 50)
 - estimated moose harvest was 11 animals for a success rate of 22% (Table 77).

B. POPULATION STATUS

1. Moose Mountain Park (WMZ 33) (old Zone 16)
 - The random block survey designed and flown in 1982-83 was repeated in 1984 and resulted in an estimate of 370 $\pm$ 19%, a significant decline from the 463 $\pm$ 20% estimate for 1983 (Table 75). A large population increase was expected with "no sport hunting season" but unregulated harvest was reported to be heavy.
2. Cypress Hills Park (WMZ's 6 & 7) (old Zones 3 & 4)
 - The population remains in a depressed state owing to the diminished quality of browse available in the West Block, combined with unregulated harvest.
3. Fort a la Corne WMU (WMZ 50) (in old Zone 21)
 - No aerial survey was conducted in 1983-84.
4. Duck Mountain Park (WMZ 37) (old Zone 18)
 - No aerial survey was conducted in 1983-84.

Table 77. Moose Harvest Statistics - Special Southern Areas 1981-1983

Old Zone***	Harvest			Kill Per Sq. Km			Hunter Success			Areas Used (km ²)
	1981	1982*	1983	1981	1982	1983	1981	1982	1983	
3	42	--	--	.25	--	--	77	--	--	168.35
16	90	--	--	.23	--	--	46	--	--	398.86
18	36	32*	32	.13	.12	.12	38	32	32	268.59
21	58	17**	41**	.06	.02	.04	39	17	41	1038.58
22	56	--	--	--	--	--	76	--	--	24001.42
23G	10	7	11	.05	.04	.06	20	14	22	183.89

* estimate from Duck Mtn. Park staff

** estimate from telephone survey

*** moose hunting in Zones 21 and 23 has been confined to Fort-a-la-Corne Wildlife Management Unit and Greenwater Provincial Park, respectively.

Hunter Activity

Old Zone	Hunter Days			Hunter Days/Sq. Km			Hunter Days/Animal		
	1981*	1982	1983	1981	1982	1983	1981	1982	1983
3	132	--	--	0.78	--	--	3.88	--	--
16	719	--	--	1.80	--	--	10.12	--	--
18	319	412	333	1.18	3.57	1.2	9.38	17.5	10.4
21	729	425	698	0.70	0.97	0.8	10.26	22.4	16.6
22	207	--	--	--	--	--	6.08	--	--
23G	--	140	190	--	--	1.0	--	--	1.7

* Zone 3 & 4 total.

Sex Composition in Harvest

Old Zone	Bulls		Cows		Calves		Bulls/Cows/Calves	
	1982	1983	1982	1983	1982	1983	1982	1983
18*	43.5 (14)	68 (22)	31.5 (10)	27 (9)	25.0 (8)	5 (1)	140/100/80	244/100/11
21**	47.1 (8)	31 (11)	29.4 (5)	50 (18)	23.5 (4)	19 (7)	160/100/80	61/100/39
23G***		20 (2)		40 (4)		40 (4)		50/100/100

* Based on Check Station Sex and Age Ratios

** Based on Telephone Interview

*** Based on Hunter Questionnaire

() = number of animals

5. Greenwater Park (WMZ 56) (in old Zone 23)

- A transect survey resulted in a decrease in the moose population estimate from $0.9/\text{km}^2$ in 1984.
- Fluctuations of this magnitude are regarded as peculiarities of the Greenwater survey as these population changes are difficult to account for by mortality alone.

C. 1984 MANAGEMENT OBJECTIVES

1. Moose Mountain Park (WMZ 33)

- The season will remain closed in 1984 in response to the unexpected population decline.

2. Cypress Hills Park (WMZ's 6 & 7)

- There are insufficient animals to warrant a 1984 season.

3. Thickwood Hills (WMZ 44)

- The population is believed to be too low to warrant a 1984 season owing to continued unregulated hunting pressures.

4. Fort a la Corne WMU (in WMZ 50) (100 Licences)

- The low success of moose hunters does not warrant any reduction in quota given the estimated population.

5. Duck Mountain Park (in WMZ 37) (100 Licences)

- The present format will be retained as the existing hunting regime appears to be maintaining stable populations.

6. Greenwater Park (in WMZ 56) (50 Licences)

- The survey results do not justify any dramatic change for this small area.

**SUMMARY: APPENDIX 13 OUTLINES THE 1984 PARKS AND WILDLIFE
MANAGEMENT UNITS MOOSE HUNTING REGULATIONS.**

MULE DEER

A. REVIEW OF 1983 HUNTING SEASON

1. Licence Sales

<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	
						<u>Regular</u>	<u>Antlerless</u>
3008	3159	4006	4100	4329	5471	5754	1455

- Regular Licence quotas have increased 91% since 1977.
- Antlerless quotas were introduced in 1983.

2. Harvest

- The mule deer harvest increased from 4,074 in 1982 to 6,231 in 1983 (Table 78).
- Regular season hunter success was 83%, similar to the 82% reported for 1982.
- 92% of the antlerless hunters were estimated to have been successful from questionnaire returns compared to 85% from a phone survey.

3. Hunter Recreation

- Recreation-days increased in 1983 to 12,800 days (Table 79).
- Hunter-days/animal was 2.2 in 1983 compared to 1.8 in 1982 for the regular season, and 1.2 days/animal for the antlerless season.

4. Harvest Structure

(a) Hunter Questionnaire

- The percentage of bucks in the harvest was similar to the proportion during the last two years (Table 80).
- However, zone harvests were largely influenced by the antlerless season increasing the proportion of does and fawns in the kill.
- Analysis of hunter questionnaires returned and success by zone are given in Appendix 25.

(b) Check Station

- Check stations were operated during the antlerless mule deer season.
- Age structure was characteristic of a dynamic population as older age class does were not common (Table 81, Figure 30, Appendix 24).

Table 78. Mule Deer Harvest and Hunting Success 1980-1983

Old Zone	Harvest					Percent Hunter Success				
	1980	1981	1982	1983	1983 (Antlerless)	1980	1981	1982	1983	1983 (Antlerless)
1	40	36	41	40	—	83	75	88	79	—
2	530	590	764	946	—	93	87	89	86	—
3	264	252	345	534	—	92	88	91	89	—
4	185	198	300	344	—	94	83	90	86	—
5	1,152	1,223	1,217	1,232	658	93	91	92	88	94
6	1,294									
6A		935	916	1,020	435		88	88	68	83
6B		104	111	132	100		90	98	88	100
6C		177	172	174	144		90	91	87	96
8	76	119	89	205	—	80	83	75	82	—
9	—	—	—	33	—	—	—	—	65	—
12	30	28	77	144	—	63	57	65	72	—
13	—	—	24	34	—	—	—	51	63	—
14	—	—	—	31	—	—	—	—	62	—
22	—	—	23	25	—	—	—	48	50	—
Total	3,571	3,662	4,079	4,894	1,337	91	88	82	83	92

Table 79. Mule Deer Hunting Pressure 1900-1903

Old Zone	Hunter Days			Hunter Days/Square Km					Hunter Days/Animal				
	1900	1901	1902	1903 (Antlerless)	1900	1901	1902	1903 (Antlerless)	1900	1901	1902	1903 (Antlerless)	1903
1	46	102	82	127	---	.02	.03	.04	---	1.1	2.8	2.0	3.2
2	783	1,048	1,375	1,864	---	.10	.20	.29	---	1.5	1.8	1.8	2.0
3	490	484	586	913	---	.09	.09	.16	---	1.8	1.9	1.7	1.7
4	277	424	480	680	---	.10	.20	.28	---	1.5	2.1	1.6	2.0
5	1,646	2,183	1,947	2,362	867	.50	.60	.71	.25	1.4	1.8	1.6	1.9
6	2,029	---	---	978*	128*	.40	---	---	---	1.6	---	---	---
6A	---	1,804	1,790	1,812	357	---	.10	.10	.08	---	1.9	1.9	1.8
6B	---	170	155	239	86	---	.30	.38	.14	---	1.6	1.4	1.6
6C	---	359	310	416	144	---	.70	.88	.31	---	1.9	1.8	2.4
8	143	307	196	554	---	.03	.07	.12	---	1.9	2.6	2.2	2.6
9	---	---	---	137	---	---	---	.04	---	---	---	---	4.1
12	151	350	354	690	---	.04	.10	.20	---	4.4	12.5	4.6	4.6
13	---	---	132	190	---	---	---	.04	---	---	---	5.5	5.6
14	---	---	---	110	---	---	---	.06	---	---	---	---	3.5
22	---	---	81	173	---	---	---	.02	---	---	---	3.5	6.9
Total	5,545	7,211	7,430	11,251	1,582	.17	.16	.23	.20	1.6	2.0	1.8	2.3
													1.2

* Did not specify 6A, 6B, or 6C

Table 80. Sex and Age Composition - Mule Deer Harvest 1980-1983

Old Zone	Percent Bucks				Percent Does				Percent Fawns				Buck/Doe/Fawn 1983
	1980	1981	1982	1983	1980	1981	1982	1983	1980	1981	1982	1983	
1	55.5	45.4	57.1	75.5	44.4	27.2	23.8	18.9	0.0	27.2	19.0	5.6	400/100/30
2	73.3	75.6	72.8	72.3	23.9	20.3	21.0	21.9	2.8	3.9	6.1	5.8	333/100/24
3	68.9	64.5	72.1	72.6	21.7	28.4	23.7	22.4	9.4	6.9	3.7	5.0	324/100/22
4	78.9	75.1	65.8	69.4	19.7	21.7	28.3	21.8	1.5	3.1	5.4	8.8	318/100/40
5 1st Season	72.3	76.5	74.9	74.1	20.9	19.3	18.0	19.9	6.8	4.1	7.1	6.0	371/100/30
2nd Season	63.9	71.8	71.6	69.4	31.1	19.0	21.2	24.1	5.0	9.1	7.2	6.5	288/100/27
Antlerless	--	--	--	0	--	--	--	68.9	--	--	--	31.1	0/100/45
6A 1st Season	--	72.1	69.2	70.8	--	23.0	22.6	24.1	--	4.9	8.1	5.1	294/100/21
2nd Season	--	65.1	50.1	63.4	--	26.3	39.0	31.1	--	8.6	10.9	5.5	204/100/18
Antlerless	--	--	--	0	--	--	--	71.2	--	--	--	28.8	0/100/40
6B 1st Season	--	64.1	60.2	70.8	--	31.7	31.3	26.4	--	4.2	7.2	2.8	268/100/11
2nd Season	--	--	--	51.9	--	--	--	40.4	--	--	--	7.7	129/100/19
Antlerless	--	--	--	0	--	--	--	69.4	--	--	--	30.6	0/100/44
6C 1st Season	--	63.0	59.7	70.2	--	31.0	32.6	21.3	--	6.0	7.7	8.5	330/100/40
2nd Season	--	--	--	70.5	--	--	--	25.3	--	--	--	4.2	279/100/17
Antlerless	--	--	--	0	--	--	--	72.3	--	--	--	27.7	0/100/38
8	85.7	71.4	79.2	74.5	10.7	20.8	16.7	22.3	3.5	7.6	4.2	3.2	334/100/14
9	--	--	--	80.6	--	--	--	11.1	--	--	--	8.3	725/100/75
12	46.7	75.0	60.6	64.2	40.0	17.8	28.2	24.1	13.3	7.1	11.3	11.7	267/100/49
13	--	--	66.7	57.7	--	--	27.8	40.4	--	--	5.6	1.9	143/100/ 5
14	--	--	--	81.1	--	--	--	5.4	--	--	--	13.5	1500/100/250
22	--	--	66.7	70.4	--	--	33.3	25.9	--	--	--	3.7	271/100/14
Total	66.9	71.3	68.3	56.9	26.9	22.7	24.6	32.7	6.1	5.9	7.2	10.4	174/100/32

SAS
TABLE OF SEX BY YR_CLASS

SEX	YR_CLASS												TOTAL
FREQUENCY	0.51	1.51	2.51	3.51	4.51	5.51	6.51	7.51	8.51	9.51	9.91		
PERCENT													
ROW PCT													
COL PCT													
F	9	101	98	70	36	21	15	13	12	5	15	434	
		19.17	18.60	13.28	6.83	3.98	2.85	2.47	2.28	0.95	2.85	82.35	
		23.27	22.58	16.13	8.29	4.84	3.46	3.00	2.76	1.15	3.46		
		53.16	96.08	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00		
M	0	89	4	0	0	0	0	0	0	0	0	93	
		16.89	0.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.65	
		95.70	4.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
		46.84	3.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
TOTAL	190	102	70	70	36	21	15	13	12	5	15	527	
	36.05	19.35	13.28	9.11	6.83	3.98	2.85	2.47	2.28	0.95	2.85	100.00	

Table 81. Year Class Composition of Provincial Antlerless Mule Deer Harvest 1983

MULE DEER SEX AGE STRUCTURE 1983 FROM CHECKSTATION

PERCENTAGE BAR CHART

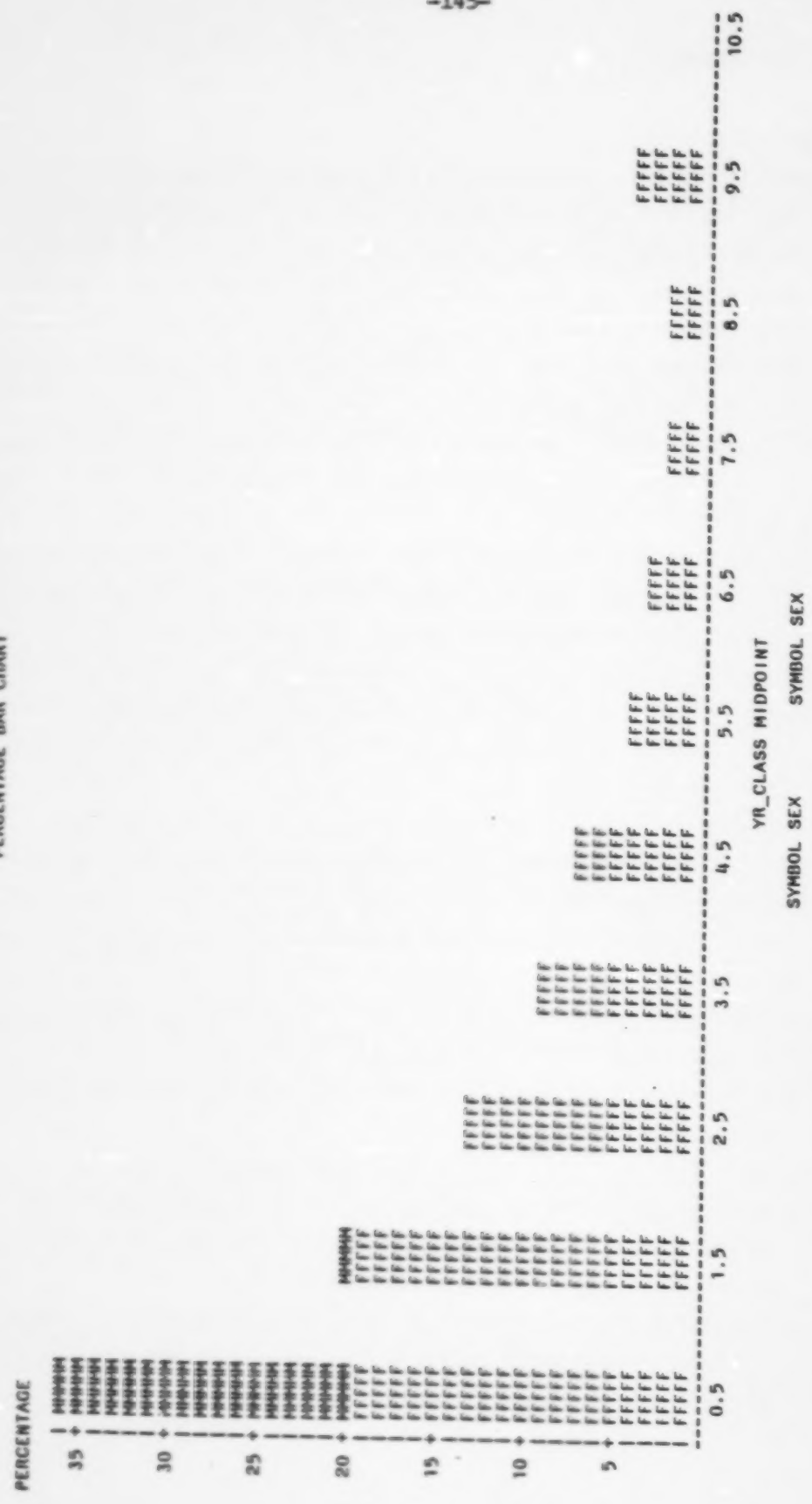


Figure 30. Year-Class Composition of Provincial Antlerless Mule Deer Harvest 1983

B. POPULATION STATUS

1. Density Estimates

- Estimates for the Great Sandhills, and Cabri and Burstall Sandhill complexes were derived from data collected during a mid-November sex and age survey. Population estimates were created by dividing the number of animals observed by the estimated area flown. These estimates are crude considering they were obtained from a single observer R-22 helicopter during marginal snow cover and with the intent of finding the largest number of deer with the least effort.
- Population estimates for WMZ's 9 and 10 were 19% and 8%, respectively, above 1981 levels while WMZ's 12 and 13 estimates were 28% and 15% lower, respectively (Table 82).
- Stratified random block surveys were conducted on a number of drainages in WMZ's 2, 5, and 6 (Table 83). Density estimates varied from 0.1 deer/km² for the Val Marie block to 0.9 deer/km² for Swift Current Creek.

2. Population Structure: Helicopter Aerial Survey

- 3,900 mule deer were classified by sex and age class and antler configuration in the Cabri, Burstall, and Great Sandhill complexes during November 1983 (Table 84).
- All zones had high fawn production averaging 95 fawns/100 females.
- Twinning rates were higher in the smaller Cabri and Burstall complexes than in the Great Sandhills.
- WMZ 9 mule deer had a significantly higher proportion of males than WMZ 10 ($X^2=7.1$, $p<0.01$).
- Mature males comprised a significantly larger proportion of the male mule deer population in WMZ 9 than WMZ 10 ($X^2=5.2$, $p \leq 0.05$).
- Yearling males comprised 76 and 70% of the male populations for Cabri and Burstall, respectively.

3. Population Structure: Co-operative Wildlife Management Study

- The population structure of the 2,085 mule deer classified from the Grasslands was not statistically different ($p \leq 0.2$) from the 3,900 animal helicopter sample ($X^2=2.7$) (Tables 85, 86).
- In all zones with adequate sample sizes, both reproduction and sex ratios are acceptable, although differences in male:female ratios and proportions of yearling and mature bucks are apparent.

Table 82. 1983-84 Mule Deer Population Estimates

WMZ	Block of Mule Deer Habitat (km ²)	Survey Area (Km ²)	No. Deer Observed	Density (Animals/ Km ²)	1981	% Change	1970-81 Average
9	Millie (114)	63	265	4.3			
	Bigstick- Crane (168)	100	467	4.6			
TOTAL (282)		163	732	4.5	3.6	+19	1.7
10	Yeast (119)	33	574	17.4			
	Minor (231)	13	672	52.4			
	Watson (122)	30	581	19.0			
	Elkink (117)	94	259	2.8			
	Co-ops (184)	50	434	8.9			
TOTAL (773)		220	2520	11.5	10.6	+8	4.7
11	Burstall (67)	54	273	5.1	6.0	-15	3.7
12	Cabri (137)	82	381	4.6	6.4	-28	5.1

Table 83. 1983-84 Stratified Random Block Mule Deer Population Surveys

Block	Old GMZ	New WMZ	Area Km ²	Area Surveyed Km ²	Population $\pm 95\%$ C.I. of Townships Surveyed	Density (Deer/km ²)	Population * $\pm 95\%$ C.I. of Survey Block
Eastend	4	6	552	102	431 $\pm$ 208	0.78 $\pm$ 0.37	718 $\pm$ 340
Swift Current Creek	4, 8	5, 6	552	87	509 $\pm$ 271	0.92 $\pm$ 0.49	847 $\pm$ 451
Val Marie	2	2	829	59	460 $\pm$ 692	0.55 $\pm$ 0.83	912 $\pm$ 1376

* The survey blocks for Eastend, Swift Current Creek, and Val Marie encompassed 922, 922, and 1658 km² each, respectively. To reduce survey costs 6, 6, and 9 townships were randomly selected and stratified for the actual survey. The 3 strata were designated as high (tributaries), medium (major drainage), and low (uplands), but only blocks within high and medium strata were flown under the assumption of no deer on low stratum. Due to the problems inherent to this survey, the results should not be interpreted as conclusive.

Table 84. Mule Deer Population Structure - Helicopter Observations Nov 1983

New W'MZ	NUMBER OF DEER					Males 100 Females	Fawns 100 Females	% Does with Fawns Single Twins Triplets	
	Yearling Males (%)	Mature Males (%)	Does	Fawns					
9	66 (51)	63 (49)	241	229	53	95	76	21	0
10	276 (62)	167 (38)	1146	1086	39	95	62	28	10
11	26 (76)	8 (24)	121	113	29	93	45	50	5
12	54 (70)	23 (30)	155	147	51	95	58	42	0
GRASSLAND	422 (62)	261 (38)	1663	1575	41	95	65	28	7

Table 85. Mule Deer Population Structure - Province - Sept-Nov 1983
(Co-operative Wildlife Management Observations)

New WMZ	NUMBER OF DEER					Males 100 Females	Fawns 100 Females	% Does with Fawns Single Twins Triplets	
	Yearling Males (%)	Mature Males (%)	Does	Fawns					
GRASSLAND	228 (60)	152 (40)	906	799	42	88	57	41	2
FARMLAND	50 (60)	33 (40)	144	119	59	83	73	26	1
PARKLAND	6 (40)	9 (60)	39	18	41	46	45	55	0
FRINGE	0 (0)	0 (0)	5	3	0	60	100	0	0
FOREST	0 (0)	2 (100)	5	4	40	80	100	0	0
PROVINCE	284 (58)	203 (42)	1099	943	44	86	60	39	1

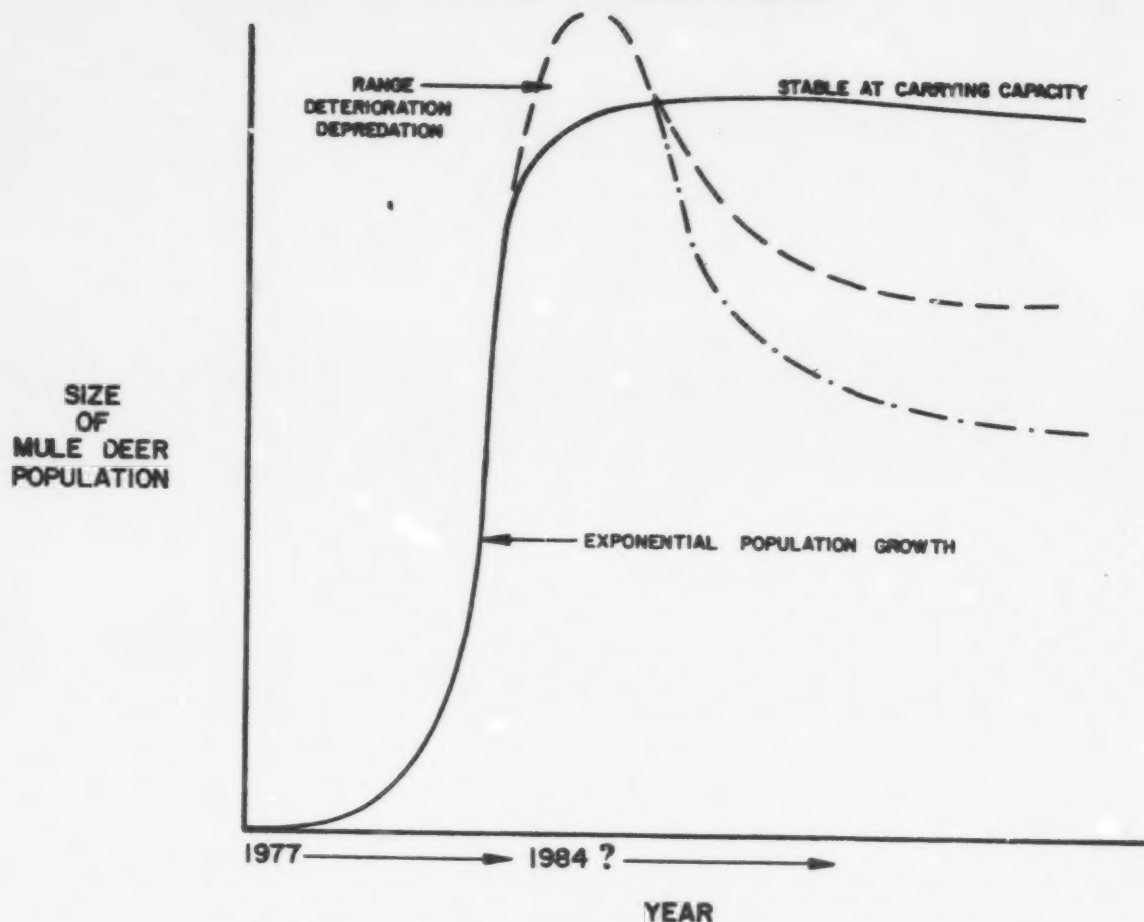
Table 86. Mule Deer Population Structure - Grasslands - Sept-Nov 1983
(Co-operative Wildlife Management Observations)

New WMZ	NUMBER OF DEER					Males 100 Females	Fawns 100 Females	% Does with Fawns Single Twins Triplets	
	Yearling Males (%)	Mature Males (%)	Does Fawns	Males 100 Females	Fawns 100 Females				
1	55 (71)	22 (29)	126	125	60	99	58	42	0
2	47 (59)	32 (41)	213	210	37	99	51	47	2
3	2 (67)	1 (33)	4	3	75	75	100	0	0
4	19 (63)	11 (37)	35	29	86	83	53	24	23
5	10 (53)	9 (47)	25	7	76	28	100	0	0
6	11 (61)	7 (39)	40	21	45	53	67	28	5
7	3 (50)	3 (50)	18	8	33	44	67	33	0
8	22 (61)	14 (39)	81	70	43	86	74	26	0
9	6 (33)	12 (67)	55	42	33	76	73	27	0
10	22 (63)	13 (37)	106	94	34	89	57	43	0
11	1 (33)	2 (67)	10	18	30	180	20	80	0
12	—	—	—	—	—	—	—	—	—
13	14 (50)	14 (50)	108	94	27	87	44	53	3
14	16 (57)	12 (43)	85	78	32	92	58	42	0
TOTAL	228 (60)	152 (40)	906	799	42	88	57	41	2

C. MANAGEMENT OBJECTIVES

1. General Statement

- Mule deer populations have been increasing exponentially since 1977 despite a more than two-fold increase in licence sales.



- Continued growth of the mule deer population will result in increased crop depredation, potential range deterioration and an ultimate reduction or crash of the mule deer herd. Depredation complaints have been increasing over the past two years. With the recent mild, low snowfall winters permitting mule deer to exploit agricultural crops, range availability could be of concern during a severe winter.
- The population increase has been stimulated by the disproportionately high harvest of antlered animals allowing annual growth in the number of breeding females.

- The female segment of the population is presently in the highly productive young to mid-age classes producing 95 fawns/100 does in 1983.
- While the number of bucks harvested has remained high, it has been suggested that quality has been declining, and the ratio of mature males/breeding females is falling.
- The winter of 1983-84 was exceptionally mild, snowfall low, and spring leaf flush early which will ensure low overwinter mortality, high inutero fawn survival and excellent neonatal condition such that a minimum of 100 fawns/100 does is expected throughout the mule deer range.
- The 1984 management philosophy is to maintain the mule deer population in an exponential growth phase by retarding the increase in actual mule deer numbers, and to increase male:female sex ratios. To accomplish this it is essential that the antlerless component of the harvest be significantly increased.

2. 1984 Management Objectives

The provincial mule deer population continues to increase, causing some concern for range carrying capacity, disproportionately high mule deer/white-tailed deer ratios, and elevated depredation problems. Mule deer are expanding into marginal habitats previously unoccupied or containing low densities of deer.

- (a) Mule deer populations in the peripheral zones are currently underharvested and capable of withstanding greater hunting pressure. Regular season quotas have been increased in these zones to reflect population increases.
- (b) The growth of mule deer populations in primary habitats continues to surpass the influence of all combined mortality factors, resulting in underutilization of the mule deer resource for hunting, increased depredation problems and high mule deer/white-tailed deer ratios. By directing more hunting pressure on does and fawns in these areas, population growth can be slowed. This long term management strategy must not be applied universally but rather evaluated on an individual zone basis. Antlerless quotas have been increased or implemented in 1984 in those zones in which mule deer populations warrant stabilization or at least a slowing in the growth rate. A total of 6,400 antlerless permits were available through computerized draw in 1984.

- (c) The quality of bucks in WMZ's 10, 11 and 12 may have declined in recent years and is at the point where bucks should be afforded some protection to maintain the "trophy" segment. With this objective in mind, the regular season in WMZ 11 will be closed in 1984, the quota for WMZ 12 reduced 25%, and the quota for WMZ 10 increased as well. The seasons in these zones will be closely monitored in 1984 to evaluate the effectiveness of such management techniques.
- (d) Increased antlerless quotas within the new wildlife management zones may help lower the high mule deer/white-tailed deer ratios evident in some zones.
- (e) The season in WMZ 46 is being delayed one week because a number of co-op pastures in the Manitou Sandhills are open to hunting on November 15.

D. 1984 WMZ QUOTA JUSTIFICATIONS

1. WMZ 2

- 86% hunter success in 1983.
- High proportion of bucks in the harvest (72%); 37 bucks/100 does in the population.
- High productivity of females (99 fawns/100 females), 41% twinning rate.
- Increased incidence of mule deer depredation along the Frenchman, east of Val Marie and near Eastend.
- Based on a helicopter survey in part of the zone, the 1983 post-season population is estimated to be 8,400 mule deer.

2. Great Sandhills (WMZ's 9 & 10)

- Densities calculated from the November, 1983 sex-age surveys were 4.5 deer/km² in WMZ 9 and 11.5/km² in WMZ 10.
- The mule deer population is estimated at 2,300 in WMZ 9 and 9,500 in WMZ 10 (total 11,800).
- Since 1981, mule deer populations have increased 19% in WMZ 9 and 8% in WMZ 10.
- Female productivity is high (95 fawns/100 does).
- There is a higher proportion of bucks, particularly mature bucks, in WMZ 9 compared to WMZ 10.
- Recent increases in depredation in both zones indicates rapidly expanding populations.

3. Burstall Sandhills (WMZ 11)

- November 1983 sex-age survey indicated mule deer density of $5.1/\text{km}^2$; approximately 340 deer.
- Since 1981, mule deer population has declined 15%.
- Female productivity is high (93 fawns/100 females) but the proportion of mature bucks is low (7/100 females).
- Bucks comprised 71% of the harvest during the first half of the 1983 season but dropped to 51% during the last half.
- Depredation is occurring in this zone, even during recent mild winters.
- Closure of the regular season will allow the buck segment of the herd to increase.
- Maintenance of an antlerless harvest of 200 animals will hold the population at its present level.
- This season will be closely monitored in 1984.

4. Cabri Sandhills (WMZ 12)

- Population estimate of 630 animals is based on a November 1983 density of $4.6 \text{ mule deer}/\text{km}^2$, a 28% decrease since 1981.
- Productivity is high (95 fawns/100 females) as is the ratio of bucks in the population (51/100 females) although the mature buck component is low (14/100 females).
- Depredation currently occurs in WMZ 12.
- The range is in fair condition but could conceivably deteriorate sharply in a harsh winter, given present population levels. Attempts will be made to reduce this population by exerting relatively heavy hunting pressure on the antlerless segment of the population while reducing the regular season harvest by 25%.
- The consequences of applying such management techniques will be closely evaluated during 1984 and as such this season is to be considered experimental in nature.

5. WMZ's 13 & 14

- Available survey information indicates healthy mule deer populations in WMZ's 13 and 14.
- Co-operative wildlife observations suggest a good reproductive effort of 90 fawns/100 females in 1983.
- Proportion of bucks observed in this study was somewhat low (30/100 females), but bucks comprised 70% of the 1983 harvest.

- Some depredation reported in these two zones.
 - Harvest strategy is to slow future population growth by increasing the antlerless harvest and afford some protection to bucks in these two zones by lowering regular season quotas.
6. WMZ's 1, 3, 4, 7, 8, 19, 23-27, 29, 30, 45, 46 (Peripheral Mule Deer Zones)
- Mule deer populations outside the primary habitats are increasing and expanding their range.
 - Previous season quotas have been conservative.
 - Management objective in these zones is to increase regular season quotas relative to available populations. Antlerless seasons are not warranted in these zones at this time.

SUMMARY: APPENDIX 13 OUTLINES THE 1984 MULE DEER HUNTING REGULATIONS.

ELK

L FOREST ZONES

A. REVIEW OF 1983 HUNTING SEASON

1. Regular (Bulls Only) Licence Sales

<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>
1636	1882	1947	2054	2331	2774	3020	3187

2. Hunting/Harvest

- The antlered season elk harvest increased 56% from 167 animals in 1982 to 261 animals in 1983 (Table 87).
- Hunter-days increased to 9,425 from 5,514 days in 1982 (Table 88).
- 43% of the recreation-days and 31% of the harvest occurred during the week September 19-24 (Table 89; Figure 31).
- 36% of the recreation-days and 33% of the harvest occurred during the late Dec 5-10 week (Table 89).
- The 1983 either-sex harvest of elk in old Zone 30 was estimated at 43 animals compared to 23 in 1982 (Table 87). The behaviour of elk in relation to their movement out of Prince Albert National park determines the magnitude of the harvest.
- Analysis of hunter questionnaire returns and successful responses are presented in Appendix 26.

B. POPULATION STATUS

1. Aerial Surveys

- Population estimate surveys were not conducted for elk during the 1983-84 winter.

2. Population Structure - Aerial Surveys

- Calves/100 females varied from 46 in the Porcupine Forest (WMZ 56 and 57) to 49 in the Cumberland Delta (WMZ 60 and 61) (Table 90).
- Males/100 females varied from 18 in the Porcupine Forest to 31 in the Cumberland (Table 90).

Table 87. Regular Season Elk Harvest and Hunting Success 1979-1983

Old Zone	Harvest					Percent Hunter Success				
	1979	1980	1981	1982	1983	1979	1980	1981	1982	1983
23	104	182	97	125	211	12	20	7	13	15
24	0	0	0	0	7	0	0	0	0	7
25	21	10	20	5	12	12	13	15	7	15
26	No Season	No Season	20	5	0	—	—	14	4	0
27	No Season	No Season	5	5	4	—	—	6	8	7
28	16	62	32	17	31	5	12	7	5	9
29	0	0	0	0	0	0	0	0	0	0
30*	0	0	51	23	43	0	0	5	6	13
31	0	0	0	5	0	0	0	0	10	0
32	No Season	No Season	No Season	0	0	—	—	—	0	0
33	10	0	25	5	0	21	0	36	20	0
Total	151	254	199 (250)	167 (190)	261 (304)	7	15	9	10	13**

* either sex special management season included in () in harvest estimate.
 ** data does not include estimates for old zone 30.

Table 88. Regular Season Elk Hunting Pressure 1979-1983

Old Zone	Hunter Days					Hunter Days/Sq. Km Habitat					Hunter Days/Animal				
	1979	1980	1981	1982	1983	1979	1980	1981	1982	1983	1979	1980	1981	1982	1983
23	3,287	3,261	3,861	3,163	6,537	0.4	0.4	0.4	0.3	0.8	31.6	17.9	46.7	25.2	30.1
24	133	139	58	3	226	tr.	tr.	tr.	0.00	tr.	0.0	0.0	0.0	0.0	46.0
25	532	160	337	138	290	0.2	tr.	0.1	tr.	0.1	25.3	16.0	18.2	26.5	18.2
26	---	---	223	394	355	---	---	0.1	0.1	0.1	---	---	18.3	66.0	***
27	---	---	234	233	185	---	---	tr.	tr.	tr.	---	---	55.0	39.0	37.5
28	1,381	1,764	1,232	1,328	1,655	0.1	0.2	0.1	0.1	0.1	86.3	28.4	51.6	74.2	37.6
29	40	9	0	0	5	tr.	tr.	0	0	0	0.0	0.0	0.0	0.0	***
30*	---	---	1,034	1,173	1,331	---	---	---	N/A	0.1	---	---	20.1	77.5	24.4
31	153	236	138	107	21	0.01	0.02	tr.	tr.	tr.	0.0	0.0	0.0	---	***
32	232	251	134	128	156	0.03	0.03	tr.	tr.	tr.	23.2	0.0	7.6	21.5	***
Total	5,738	5,820	(7,253)*(6,687)*	(10,756)*0.1	0.1	0.1	0.1**	0.1**	0.1**	48.2	22.9	37.8**	33.0**	32.9**	
			6,219	5,514	9,425										

* either sex special management season included in estimates.

** estimate does not include estimates for old Zone 30.

*** hunter days divided by 0 elk is mathematically invalid.

Table 89. Regular Season Elk Harvest and Hunting by Week 1981-1983

Week	1981				1982				1983			
	Number of Hunters	Hunter Days	Harvest	Number of Hunters	Hunter Days	Harvest	Number of Hunters	Harvest	Number of Hunters	Hunter Days	Harvest	Harvest
September 19-24	1,446	4,648	99	1,141	3,479	86	1,249	86	1,249	4,629	112	
September 26 - October 1	510	1,014	24	816	1,978	61	425	61	425	1,242	95	
October 26-31	401	1,008	37	---	---	---	---	---	---	---	---	
November 1-6	196	443	18	282	673	14	---	---	---	---	---	
November 7-12	222	497	24	210	413	---	250	---	250	649	8	
November 14-19	---	---	---	163	409	7	53	7	53	99	12	
November 21-26	---	---	---	---	---	---	89	---	89	233	13	
December 5-10	---	---	---	---	---	---	2700	---	2700	3917	120	
Total		7,611	202		6,952	168	4,766	168	4,766	10,769	360	

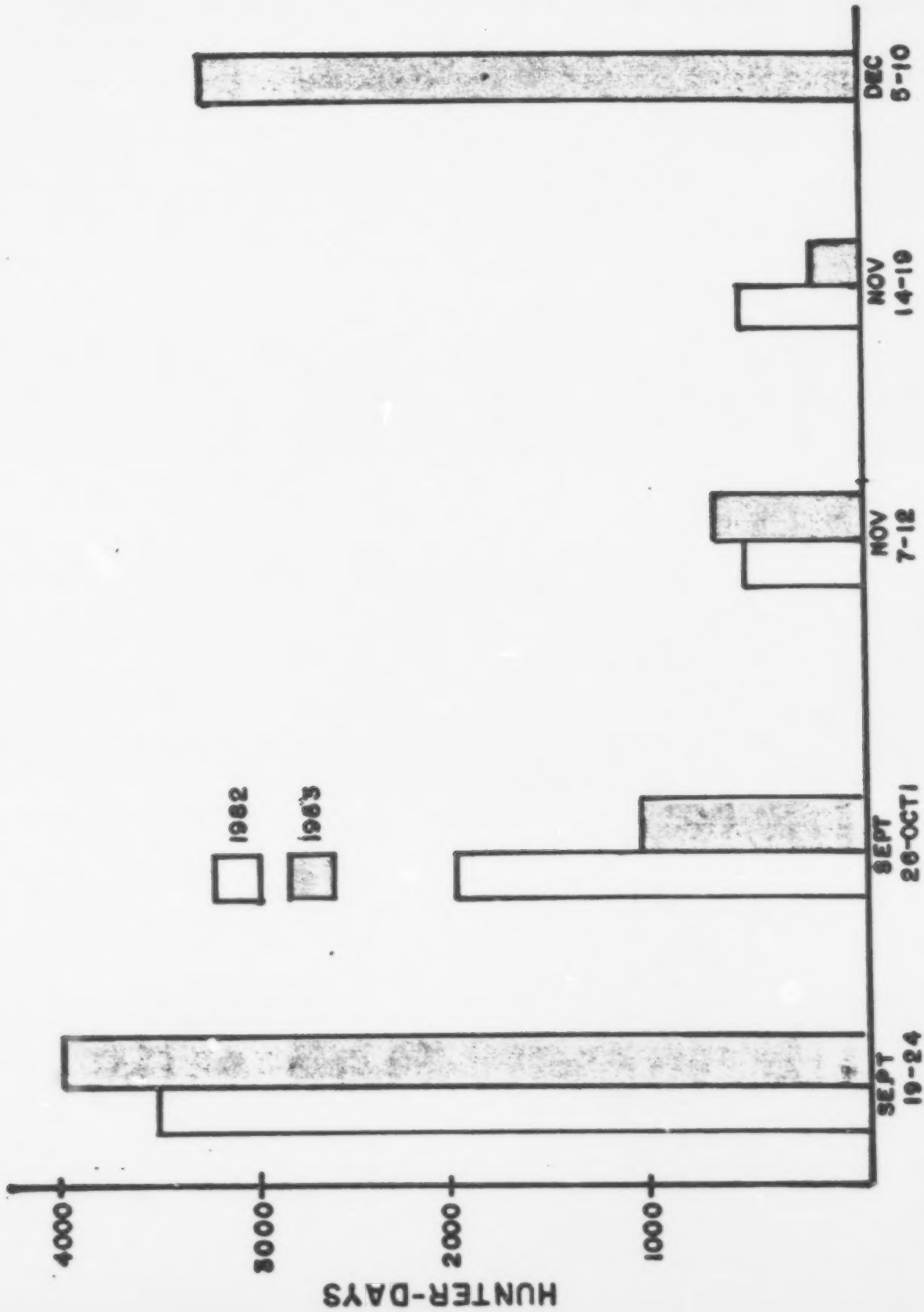


Figure 31. Regular Season Elk Hunter Activity By Week, 1983-84.

Table 90. 1983-84 Sex and Age Structure of Elk (Helicopter Observations)

SPECIES	WMZ	MONTH	MALES	FEMALES	FAWNS	MALES 100 FEMS	FAWNS 100 FEMS
ELK	33 TOTAL	10	5 5	16 16	11 11	31.25 31.25	68.75 68.75
PARKLAND			5	16	11	31.25	68.75
	49 TOTAL	1	9 9	81 81	41 41	11.11 11.11	50.62 50.62
FRINGE			9	81	41	11.11	50.62
	56 TOTAL	1	49 49	197 197	97 97	24.87 24.87	49.24 49.24
	57 TOTAL	1	22 22	188 188	80 80	11.70 11.70	42.55 42.55
	59 TOTAL	1	0 0	7 7	5 5	0.00 0.00	71.43 71.43
	60 TOTAL	12	9 9	18 18	11 11	50.00 50.00	61.11 61.11
	61 TOTAL	12	24 24	81 81	38 38	29.63 29.63	46.91 46.91
	63 TOTAL	1	1 1	5 5	5 5	20.00 20.00	100.00 100.00
	64 TOTAL	12	5 5	6 6	5 5	83.33 83.33	83.33 83.33
	66 TOTAL	1	6 6	5 5	1 1	120.00 120.00	20.00 20.00
	69 TOTAL	11	3 3	1 1	0 0	300.00 300.00	0.00 0.00
COMMERCIAL FOREST			119	508	242	23.43	47.64
SPECIES TOTAL			133	605	294	21.98	48.60

- 49% of the Porcupine males were classed as 2.5 yrs compared to 33% in the Cumberland area (Table 91).
- The accuracy of the Cessna 185 aircraft to classify elk was tested against the R-22 single passenger helicopter. The helicopter observer reported a higher proportion of males and lower proportion of calves than the fixed-wing observers ($\chi^2=3.58$, $p < 0.17$).

C. 1984 MANAGEMENT OBJECTIVES

- Maintain the status quo as per 1983.

II. SPECIAL SOUTHERN AREAS

A. REVIEW OF 1983 HUNTING SEASONS

1. Moose Mountain Park (WMZ 33) (old Zone 16) (Licence Quota = 200)
 - A telephone survey resulted in a harvest estimate of 108 animals (Table 92).
 - The harvest structure was 108 bulls/100 cows/42 calves (Table 93).
 - Indian hunting pressure is reported to have been heavy through the fall and early winter, 1983-84.
2. Fort a la Corne WMU (WMZ 50) (old Zone 21) (Licence Quota = 275)
 - The estimated harvest was 67 elk.
 - The harvest structure was 147 bulls/100 cows/43 calves (Table 93).
3. Porcupine Provincial Forest (WMZ 48, 49, 56, 57) (old Zone 23) (Licence Quota = 300)
 - The elk harvest was only 35 animals compared to 74 in 1981 (Table 92).
 - Hunter success was only 8% based on the 300 licence quota.
 - Hunter-days/animal increased to 39 from 11 in 1981.
4. Cypress Hills (WMZ 6 & 7)
 - Structure of the estimated harvest of 63 animals was 177 bulls/100 cows/43 calves (Tables 92, 93).
5. Duck Mountain Park (in WMZ 37) (old Zone 18)
 - No hunting season was held in 1983.

SUMMARY: APPENDIX 27 GIVES THE HUNTER QUESTIONNAIRE RETURN RESPONSE AND SUCCESS BY OLD GMZ.

Table 91. 1983/84 Age Classification of Bull Elk (Helicopter Observation)

SPECIES	WME	MONTH	YEARLING	% YEARLING	% ANTLER	% ANTLER	% ANTLER	MATURE	% MATURE	% ANTLER	% ANTLER	% ANTLER
					CLASS A	CLASS B	CLASS C			CLASS D	CLASS E	CLASS F
ELK												
	33	10	3	60.00	33.33	66.67	0.00	2	40.00	0.00	100.00	0.00
TOTAL			3	60.00	33.33	66.67	0.00	2	40.00	0.00	100.00	0.00
PARKLAND												
			3	60.00	33.33	66.67	0.00	2	40.00	0.00	100.00	0.00
	49	1	8	80.00	100.00	0.00	0.00	2	20.00	0.00	100.00	0.00
TOTAL			8	80.00	100.00	0.00	0.00	2	20.00	0.00	100.00	0.00
FRINGE												
			8	80.00	100.00	0.00	0.00	2	20.00	0.00	100.00	0.00
	56	1	21	42.00	57.14	0.00	42.86	29	58.00	31.03	51.72	17.24
TOTAL			21	42.00	57.14	0.00	42.86	29	58.00	31.03	51.72	17.24
	57	1	16	72.73	87.50	0.00	12.50	6	27.27	33.33	50.00	16.67
TOTAL			16	72.73	87.50	0.00	12.50	6	27.27	33.33	50.00	16.67
	59	1	0	.	.	.	.	0	.	.	.	.
TOTAL			0	.	.	.	.	0	.	.	.	.
	60	12	4	44.44	25.00	0.00	75.00	5	55.56	0.00	60.00	40.00
TOTAL			4	44.44	25.00	0.00	75.00	5	55.56	0.00	60.00	40.00
	61	12	18	75.00	72.22	0.00	27.78	6	25.00	0.00	50.00	50.00
TOTAL			18	75.00	72.22	0.00	27.78	6	25.00	0.00	50.00	50.00
	63	1	1	100.00	100.00	0.00	0.00	0	0.00	.	.	.
TOTAL			1	100.00	100.00	0.00	0.00	0	0.00	.	.	.
	64	12	2	40.00	50.00	50.00	0.00	3	60.00	0.00	100.00	0.00
TOTAL			2	40.00	50.00	50.00	0.00	3	60.00	0.00	100.00	0.00
	66	1	0	.	.	.	.	0	.	.	.	.
TOTAL			0	.	.	.	.	0	.	.	.	.
	69	11	0	0.00	.	.	.	3	100.00	0.00	100.00	0.00
TOTAL			0	0.00	.	.	.	3	100.00	0.00	100.00	0.00
COMMERCIAL FOREST			62	54.39	67.74	1.61	30.65	52	45.61	21.15	37.69	21.15
SPECIES TOTAL			73	56.39	69.86	4.11	26.03	56	43.41	19.64	60.71	19.64

Table 92. Special Season Elk Hunting and Harvest 1981-1983

Old Zone	Harvest			Kill Per Sq. Km			Hunter Success			Areas Used Km ²
	1981	1982	1983	1981	1982	1983	1981	1982	1983	
3,4	122	---	63	0.5	---	0.2	52	---	63	271.95
16**	69	54	108	0.2	0.1	0.3	55	46	57	398.89
21**	59	44	67	0.1	tr	0.1	24	23	25	1,038.58
23	74	25	35	tr	tr	tr	32	8	14	13,219.30
Total	324	144	273				37	24	34	

Old Zone	Hunter Activity			Hunter Days/Sq. Km			Hunter Days/Animal		
	Hunter Days			1981	1982	1983	1981	1982	1983
3*	686	---	421	2.5	---	1.6	6.9	---	6.7
16	366	505	440	0.9	1.3	1.1	5.5	9.3	4.1
21	1,378	957	1,020	1.3	0.9	1.0	21.5	21.7	15.2
23	811	974	847	0.06	0.07	0.06	10.9	38.9	24.2
Total	3,241	2,436	2,728				10.1	16.9	10.9

* Hunter questionnaire estimate

** Phone survey report

Table 93. Sex and Age Composition of Special Elk Harvest 1981-1983

Old Zone	Percent Bulls		Percent Cows		Percent Calves		Bull/Cow/Calf	
	1981	1982 1983	1981	1982 1983	1981	1982 1983	1982	1983
3**	28.7	--- 55	53.0	--- 31	18.1	--- 14	---	177/100/44
16*	24.3	46.0 43	59.4	46.0 40	16.2	8.0 17	111/100/15	108/100/42
21*	40.6	60.0 51	43.7	25.0 34	15.6	15.0 15	227/100/63	147/100/43
23**	30.0	42.8 31	57.5	35.7 61	12.5	21.4 8	122/100/55	50/100/13

* Phone Survey Report

** Hunter Questionnaire Estimate

B. POPULATION STATUS

1. Moose Mountain Park (WMZ 33) (old Zone 16)
 - The random block survey conducted in 1981-82 was repeated in 1984 and resulted in an estimate of 463 elk $\pm 40\%$, down 32% from the 1983 estimate.
 - The decline in the estimate may in part be attributed to heavy unregulated harvest throughout the fall and winter of 1983-84.
2. Fort a la Corne WMU (WMZ 50) (old Zone 21)
 - No survey was conducted in 1984.
3. Cypress Hills Park (WMZ's 6 & 7) (old Zones 3 & 4)
 - A January 1984 survey resulted in an estimate of 612 elk in the West Block compared to 602 in 1983. The Center Block and East Block had a minimum of 33 and 81 elk, respectively, in 1983 but were not surveyed in 1984.

C. 1984 MANAGEMENT OBJECTIVES

1. Moose Mountain Park (WMZ 33)
 - With the significant decline in the estimated elk population, a reduction in licence quota from 200 licences to 100 will occur.
2. Fort a la Corne (WMZ 50)
 - Maintain the 275 licence quota to keep the regulated harvest at about 10% of the winter herd to encourage population growth.
3. Porcupine Provincial Forest (WMZ's 48, 49, 56 and 57 combined)
 - Maintain the quota of 300 licences.
4. Cypress Hills Park (WMZ's 6 & 7)
 - The provincial objective is to maintain a pre-hunt population of 1,000 elk.
 - The 1984 survey resulted in a winter estimate of 612 animals in the West Block - stable with 1983 levels. In the East Block, the population is believed to exceed the 81 elk observed in 1983.
 - 100 licences were issued in 1984 for WMZ's 6 & 7 combined.

SUMMARY: APPENDIX 13 OUTLINES THE ELK HUNTING REGULATIONS.

BLACK BEAR

A. REVIEW OF 1983 HUNTING SEASON

1. Licence Sales

- Total licence sales decreased to 4,375 from 4,437 in 1982.
- There were 395 second bear licences issued in 1983 compared to 413 in 1982.

2. Hunting/Harvest

- The provincial harvest was 1,071 animals compared to 1,121 recorded in 1982 (Table 94).
- Hunter success was 32% for 1st licence hunters and 57% for 2nd licence holders.
- Bear hunting supplied 10,027 hunter-days of recreation compared to 10,010 in 1982 (Table 95).
- 46% of the harvest occurred during the fall bear season (Table 96).

B. POPULATION STATUS

- Field reports suggest the bear population is high.
- Expect bear numbers comparable to or higher than 1983 levels.

C. 1983 MANAGEMENT OBJECTIVES

1. In agricultural Saskatchewan, bear numbers continue to increase as does the bear's role as a pest. The bear's protected status in southern Saskatchewan has been removed to help keep bear numbers at a minimum, reducing problems with pest bears. In Wildlife Management Zones 1 to 41, and 44 to 47, bears may be hunted at any time of year without a licence.
2. Bears are serious predators of neonatal moose calves in WMZ's 58-61. Calf mortality due to black bears has been documented and exceeds 50% in some areas, severely limiting population growth and harvest. Moose calf recruitment is similarly low in a number of other WMZ's, but the significance of black bear predation has not yet been documented. Bear hunting regulations permit the harvest of 2 bears, either sex with each valid big game licence in WMZ's 58-61 during an August, September or October big game season. This regulation has been implemented in an effort to encourage hunters to participate in the reduction of black bear populations in these problem areas.

SUMMARY: APPENDIX 13 OUTLINES THE BEAR HUNTING REGULATIONS.

Table 94. Black Bear Harvest 1981-1983

Old Zone	Harvest		Harvest		Harvest		Percent Hunter Success					
	1981	1982	1981	1982	1981	1982	1981	1982	1981	1982	1981	1982
	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd
18	44	2	67	0	43	7	43	100	36	0	38	100
20	0	0	15	3	—	—	0	0	50	100	—	—
21	54	6	93	3	54	15	20	40	32	20	29	57
22	24	6	15	0	—	0	65	50	23	0	—	—
23	258	33	290	34	240	47	28	52	28	39	31	66
24	58	6	51	0	49	7	24	50	22	0	39	67
25	53	9	93	23	65	11	22	75	38	100	28	100
26	58	2	98	11	70	7	32	25	30	30	29	33
27	24	6	0	0	10	0	26	67	0	0	14	0
28	87	14	93	11	114	23	32	63	35	33	44	60
29	4	0	15	0	16	3	10	0	33	0	33	100
30	73	14	62	7	114	27	25	50	29	40	42	64
31	29	2	41	0	16	0	35	50	42	0	19	0
32	4	0	41	7	27	0	11	0	57	67	28	0
33	24	0	15	0	27	0	14	0	15	0	29	0
34	14	2	10	0	21	3	23	33	40	0	67	100
35	0	0	5	0	5	0	0	0	15	0	25	100
36	14	0	0	0	10	3	43	0	0	0	29	0
37	4	0	15	3	10	0	25	0	50	100	100	0
Total	826	102	1,019	102	911	160	27	53	29	36	32	57

Table 95. Black Bear Hunting Pressure 1980-1983

Old Zone	Hunter Days				Hunter Days/Sq. Km				Native Habitat				Hunter Days/Animal			
	1980	1981	1982	1983	1980	1981	1982	1983	1980	1981	1982	1983	1980	1981	1982	1983
18	232	297	511	417	.1	.1	.2	.2	2.7	6.8	7.6	8.3				
20	14	46	48	—	tr.	tr.	tr.	0	0.0	0.0	3.2	—				
21	671	858	1,007	697	tr.	.1	.1	.1	5.9	35.8	10.8	10.1				
22	127	58	173	101	tr.	tr.	tr.	tr.	1.9	2.6	11.5	0				
23	2,312	2,800	2,923	3,177	.3	.3	.3	.3	7.2	10.9	10.1	11.1				
24	741	824	719	707	.1	.2	.1	.1	26.4	14.2	14.1	12.6				
25	685	584	677	685	.2	.2	.2	.2	9.0	11.0	7.3	9.0				
26	457	486	934	913	.1	.1	.2	.2	8.0	8.4	9.5	11.9				
27	137	218	0	145	tr.	tr.	.0	tr.	4.9	9.1	0.0	14.5				
28	801	809	770	1,367	.1	.1	.1	.1	7.7	9.3	18.3	10.0				
29	101	122	110	190	tr.	tr.	tr.	tr.	0.0	30.5	7.3	10.0				
30	1,268	962	465	387	.2	.1	.1	.1	7.0	13.2	7.5	2.7				
31	486	189	300	376	tr.	tr.	tr.	tr.	7.4	6.5	7.3	23.5				
32	395	186	144	374	.1	tr.	tr.	tr.	6.0	46.5	3.5	13.8				
33	583	446	260	265	.1	.1	tr.	tr.	7.7	18.6	17.3	9.8				
34	107	167	23	72	tr.	tr.	tr.	tr.	5.6	11.9	2.3	3.0				
35	127	76	85	43	tr.	tr.	tr.	tr.	0.0	0.0	17.0	8.6				
36	300	90	0	81	tr.	tr.	0	tr.	15.8	6.4	0.0	6.2				
37	0	68	42	30	0	tr.	tr.	tr.	0.0	17.0	2.8	3.0				
Total	9,544	9,286 (543)	9,191 (819)	10,027 (1,103)	tr.	tr.	tr.	tr.	7.8	11.2	9.0	9.4				

() 2nd Licence Hunter Days.
tr. means trace

Table 95. Black Bear Harvest and Success by Week, 1983

Week	Licence #1		Licence #2	
	Harvest	% Success	Harvest	% Success
April 18-23	10	18	0	0
25-30	5	5	0	0
May 2-5	71	28	0	0
9-14	152	41	30	58
16-21	113	35	30	58
23-28	83	30	15	31
May 30-June 4	0	0	0	0
June 6-11	5	31	0	0
13-18	10	61	0	0
Aug 29-Sept 3	15	14	3	38
Sept 5-9	46	31	3	15
12-17	51	26	7	35
19-24	89	12	17	47
Sept 26-Oct 1	41	20	6	21
Oct 3-8	35	22	6	51
10-15	88	17	6	22
17-22	10	18	0	0
TOTAL	824	28	124	50

PRONGHORN ANTELOPE

A. REVIEW OF 1983 HUNTING SEASON

- Total licence sales were 2,411 in 1983.
- The 1983 antelope harvest was estimated to be 2,010 compared to 2,090 in 1982 (Table 97).
- Hunter success of 80% was similar to previous years.
- Antelope hunters were afield for 3,955 days in 1983, similar to 1982 (Table 98). Hunter days/animal increased slightly in 1983 to 2.0 from 1.9.

B. POPULATION STATUS

- The July 1984 aerial survey revealed a provincial antelope population of 11,000 animals, up 17% from 1983 with increases recorded in all zones except the Cypress Hills (East Block) and portions of the South Saskatchewan River drainage (Table 99).
- The 1984 provincial kid:doe ratio of 0.56 is down slightly from the long term average of 0.67 (Tables 100, 101). A proportionally high number of non-breeding yearlings, stemming from near-record high production in 1983 and excellent winter survival, contributed to lowered reproductive ratios. The spring and summer drought experienced over much of the primary antelope range may also have depressed reproductive output to a degree.

C. 1984 MANAGEMENT OBJECTIVES

Licence quotas for 1984 represent a 12.5 per cent increase over that of 1983. The quota of 2,700 licences in 17 WMZ's reflects the introduction of a limited quota of 50 licences in each of WMZ's 4, 24 and 25 and a 20 - 40 per cent increase in antelope populations in WMZ 3, 7 and 9.

SUMMARY: APPENDIX 13 OUTLINES 1984 ANTELOPE HUNTING REGULATIONS.

Table 97. Antelope Harvest 1979-1983

Zone	Harvest					Percent Hunter Success				
	1979	1980	1981	1982	1983	1979	1980	1981	1982	1983
1	93	37	44	34	50	80	75	92	68	100
2	422	302	435	516	493	89	64	85	86	82
3	363	485	619	695	559	87	86	83	82	75
4	60	107	82	40	37	78	76	88	80	74
5	435	390	259	325	373	91	83	79	81	93
6	252	297	330	413	380	90	90	89	83	84
8	98	32	89	29	50	90	69	64	58	100
14				38	60				73	76
Total	1,723	1,650	1,856	2,090	2,010	87	79	83	79	84

Table 98. Antelope Hunting Pressure 1979-1983

Zone	Hunter Days					Hunter Days/Sq. Km					Hunter Days/Animal				
	1979	1980	1981	1982	1983	1979	1980	1981	1982	1983	1979	1980	1981	1982	1983
1	116	81	72	91	69	.04	.03	.02	.03	.02	1.2	2.2	1.6	2.7	1.2
2	582	896	881	861	905	.06	.09	.09	.09	.09	1.4	3.0	2.0	1.7	1.8
3	464	807	1,201	1,234	1,139	.08	.10	.20	.20	0.20	1.3	1.7	1.9	1.8	2.0
4	113	235	161	72	78	.05	.10	.10	.03	.03	1.9	2.2	2.0	1.8	2.1
5	595	988	628	710	774	.20	.30	.20	.20	.23	1.4	2.5	2.4	2.2	2.1
6	314	427	590	718	744	.07	.09	.10	.20	.17	1.2	1.4	1.8	1.7	2.0
8		81	220	145	124	.02	.02	.05	.03	.03	1.1	2.5	2.5	5.0	2.5
14				89	122				.05	.06				2.3	2.0
Total	2,291	3,515	3,753	3,920	3,955	.07	.10	.10	.10	.13	1.3	2.1	2.0	1.9	2.0

Table 99. Provincial Antelope Population Estimates, 1981-1984

New WMZ	Old Zone	1981	1982	1983	1984
1	1	116	127	103	105 (1983)
2	2	1680	2313	2220	2508
3,7,8	3	2623	3000	2804	3335
6	4	298	296	245	211
9,10	5	1051	1422	1244	2107
11-14	6	723	1156	1594	1405
26	14	156	152	129	150
Peripheral Zones (estimated)					1000
TOTAL		6491	8466	8339	10821

Table 100. Antelope Kid:Doe Ratios

New WMZ	Old Zone	1981	1982	1983	1984
1	1	.71	.76	.50	N/A
2	2	.63	.46	.86	.52
3,7,8	3	.71	.51	.59	.51
6	4	.53	.12	2.10	.44
9,10	5	.86	.50	.88	.71
11-14	6	.61	.76	1.22	.60
19,22, 24,29	12	.56	.77	—	—
26	14	.80	.48	.68	.63
Average		.69	.51	.85	.56

Provincial Kid:Doe Ratio, 1965-1984

<u>1965</u> .54:l	<u>1966</u> .85:l	<u>1967</u> .82:l	<u>1968</u> .74:l	<u>1969</u> .87:l	<u>1970</u> .77:l	<u>1971</u> .70:l	<u>1972</u> .60:l	<u>1973</u> .68:l	<u>1974</u> .56:l
<u>1975</u> .64:l	<u>1976</u> .81:l	<u>1977</u> .65:l	<u>1978</u> .74:l	<u>1979</u> .90:l	<u>1980</u> .68:l	<u>1981</u> .69:l	<u>1982</u> .51:l	<u>1983</u> .85:l	<u>1984</u> .56:l

LICENCE QUOTA SUMMARY

WMZ	1984 Quota	WMZ	1984 Quota
1	50	9	400
2	600	10	100
3	500	12 + 13	200
* 4	50	14	200
5	50	* 24	50
6	50	* 25	50
7	200	26	50
8 + 11	150		
		Total	2700

* newly implemented season for 1984

WOODLAND CARIBOU

A. REVIEW OF 1983 HUNTING SEASON

- Licence sales have ranged between 135 and 280 in the past 8 years; 1983 licence sales were 152.
- The projected harvest was 27 animals compared to 35 in 1982 (Table 102).
- Hunter success was 13% and caribou hunters spent 232 days afield.

B. 1984 MANAGEMENT OBJECTIVES

Maintain low profile, conservative season. Population status still is not definitely known but field reports do not suggest any significant changes in woodland caribou numbers. Limited sport harvest has minimal impact. Major concerns continue to be forest road access and, more importantly, potential destruction of caribou habitat by logging.

**SUMMARY: APPENDIX 13 OUTLINES THE 1984 CARIBOU HUNTING
REGULATIONS.**

Table 102. Woodland Caribou Harvest and Hunting Pressure 1980-1983

Old Zone	Harvest			Percent Hunter Success			Hunter Days					
	1980	1981	1982	1983	1980	1981	1982	1983	1980	1981	1982	1983
24	11	0	0	0	67	0	0	0	52	25	0	0
25	0	0	0	0	0	0	0	0	18	14	0	4
26	0	0	0	0	0	0	0	0	30	0	0	0
27	0	0	0	0	0	0	0	0	36	4	0	0
28	22	25	4	7	36	53	20	40	185	203	64	41
29	0	10	0	0	0	75	0	0	42	14	0	4
30	0	0	0	0	0	0	0	0	0	0	0	0
31	17	10	4	3	43	38	14	33	82	75	168	32
32	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	3	0	0	0	33	39	55	0	55
34	0	3	9	0	0	50	100	0	33	28	36	17
35	5	0	4	3	50	0	25	50	30	0	26	12
36	5	6	14	11	25	50	50	50	27	96	58	64
37	0	0	0	0	0	0	0	0	0	0	0	11
Total	60	54	35	27	28	42	28	13	582	514	256	232

ARCHERY HUNTING

A. REVIEW OF 1983 HUNTING SEASON

1. White-tailed Deer

- Approximately 1,411 licences were sold in 1983.
- Hunter success was 9% compared to 4% in 1982.
- Most of the hunting activity occurred in city zones (old Zones 9 and 13) plus old Zones 5, 6 and 16.
- The estimated provincial harvest was 220 animals.
- Muzzleloaders enjoyed 35% success harvesting about 200 deer.

2. Mule Deer

- 775 licences were allotted in 1983.
- Archers experienced an overall success rate of 33% compared to 16% in 1982.
- The estimated mule deer harvest was 256 animals.

3. Antelope

- 248 licences were issued.
- Archer success was 22% compared to 14% in 1982.
- Harvest was 55 animals.

4. Moose

- 29 of the 100 available licences for old Zone 32 were purchased.
- Harvest estimate was only 2 animals.

B. 1984 MANAGEMENT OBJECTIVES

- Maintain all seasons as in 1983.

SUMMARY: APPENDIX 13 OUTLINES THE 1984 ARCHERY HUNTING REGULATIONS.

Appendix 1. Saskatchewan 1983 Game Bird Seasons.

Upland Game Birds

Species	Game Management Zones Open	Season Dates (Inclusive)	Bag Limit
Sharp-tailed grouse **Non-Residents of Canada may not hunt sharp-tailed grouse in Zones 5, 6, 14 & 15.	Zones 1 to 4, 7 to 15, including Elbow, Elnor-Cambria, Leland #3 (at Mutton), and Last Mountain Lake Wildlife Management Units	Oct. 3 - Nov. 12	5 daily, 10 possession
	Zones 6 and 9	Oct. 3 - Nov. 12	3 daily, 6 possession
	Zones 16 to 22, including Fort a la Corne Wildlife Management Unit	Sept. 26 - Nov. 12	5 daily, 10 possession
	Zones 23 to 37, including Meadow Lake, Nipawin, and Last Mountain Lake Wildlife Management Units, and Percu Wildlife Management Unit; and Brown Recreational Site	Sept. 8 - Dec. 3	5 daily, 10 possession
Mourning partridge **Non-Residents of Canada may not hunt Mourning partridge in Zones 5, 6, 14 & 15.	Zones 1 to 12, including Last Mountain Lake Wildlife Management Unit; and starting Oct. 3, Elbow, Elnor-Cambria, and Leland #3 (at Mutton) Wildlife Management Units	Sept. 26 - Nov. 12	10 daily, 20 possession
	Zones 13 to 22, including Fort a la Corne Wildlife Management Unit	Sept. 26 - Nov. 12	1 daily, 10 possession
	Zones 1 to 22, including Last Mountain Lake and Fort a la Corne Wildlife Management Units, and Oxbow Provincial Park; and starting Oct. 3, Elbow Wildlife Management Unit	Sept. 26 - Nov. 12	5 daily, 10 possession
	Zones 23 to 37, including Meadow Lake, Nipawin, and Last Mountain Lake Wildlife Management Units, and Percu Wildlife Management Unit; and Brown Recreational Site	Sept. 8 - Dec. 3	5 daily, 10 possession
	Moose Mountain Provincial Park	Oct. 31 - Nov. 26	5 daily, 10 possession
	Granoville Lake Provincial Park	Oct. 24 - Dec. 3	5 daily, 10 possession
Spurwing grouse	Zones 20 and 31, including Fort a la Corne Wildlife Management Unit	Sept. 26 - Nov. 12	5 daily, 10 possession
	Zones 23 to 37, including Meadow Lake, Nipawin, and Last Mountain Lake Wildlife Management Units, and Percu Wildlife Management Unit; and Brown Recreational Site	Sept. 8 - Dec. 3	5 daily, 10 possession
Pheasant	Zones 27 to 29, 31, 32 to 37, including Lac La Ronge Provincial Park	Nov. 1 - Dec. 31	10 daily, 20 possession
Ring-necked pheasant (Cott. birds) Saskatchewan Residents Only	Zones 1 to 17, including Last Mountain Lake, Elbow, Elnor-Cambria, and Leland #3 (at Mutton) Wildlife Management Units	Oct. 6 - Nov. 12	5 daily, 10 possession
	Zones 1 to 6, 15 and 17, including Elbow, Elnor-Cambria, and Leland #3 (at Mutton) Wildlife Management Units	Nov. 26 - Dec. 17	5 daily, 10 possession

Waterfowl

Ducks	Zones 1 to 22, including Elbow and Fort a la Corne Wildlife Management Units; and starting Sept. 21, Last Mountain Lake Wildlife Management Unit	Sept. 7 - Dec. 10	5 daily, 16 possession
	Zones 23 to 37, including Meadow Lake, Nipawin, and Last Mountain Lake Wildlife Management Units, and Percu Wildlife Management Unit; and Brown Recreational Site	Sept. 1 - Dec. 3	5 daily, 16 possession

Species	Game Management Zones open	Season Dates (Inclusive)	Bag Limit
Coots and Common eiders	Zones 1 to 22, including Elbow and Fort a la Corne Wildlife Management Units; and starting Sept. 21, Last Mountain Lake Wildlife Management Unit	Sept. 7 - Dec. 10	10 daily, 20 possession
	Zones 23 to 37, including Meadow Lake, Nipawin, and Last Mountain Lake Wildlife Management Units, and Percu Wildlife Management Unit; and Brown Recreational Site	Sept. 1 - Dec. 3	10 daily, 20 possession
Sandhill cranes	Zones 10 to 12, and 19 to 21	Sept. 1 - Sept. 6	4 daily, 6 possession
	Zone 6	Sept. 14 - Sept. 20	4 daily, 6 possession
Geese Season dates for *Canadian Residents and **Non-Residents of Canada begin on Sept. 26th in Zones 1 to 25, and 28.	Zones 1 to 6, 9 and 12 to 15, including Elbow Wildlife Management Unit	Sept. 21 - Dec. 10	5 daily, (3 only may be white-tailed geese) 10 possession (4 only may be white-tailed geese) (5 only may be white-tailed geese)
	Zones 7, 10, 11 and 16 to 22, including Fort a la Corne Wildlife Management Unit; and starting Sept. 21, Last Mountain Lake Wildlife Management Unit	Sept. 14 - Dec. 10	5 daily, (3 only may be white-tailed geese) 10 possession (4 only may be white-tailed geese) (5 only may be white-tailed geese)
	Zones 23 to 37, including Meadow Lake, Nipawin, and Last Mountain Lake Wildlife Management Units, and Percu Wildlife Management Unit; and Brown Recreational Site	Sept. 1 - Dec. 3	5 daily, (3 only may be white-tailed geese) 10 possession (4 only may be white-tailed geese) (5 only may be white-tailed geese)

NOTE: Starting Oct. 16th, 3 additional zones or their portions may be taken daily, and 8 additional zones or their portions may be kept in possession.

NOTE: From Sept. 1 to Oct. 20, inclusive, in Zones 1 to 25, 28, 30, 32 and 33, open season for geese includes the portion of the day from one-half hour before sunrise to 1:00 noon, local time.

APPENDIX 3. Recent Saskatchewan Game Bird Hunting Regulations

Appendix 3a. Saskatchewan Duck Hunting Regulations, 1975-1983

Year	Area * (Game Management Zone)	Hunting Season Dates	Daily Bag Limit **
1975	1-22	Sept 8 - Dec 20	8 (1 redhead or canvasback)
	23-37	Sept 1 - Dec 13	8 (1 redhead or canvasback)
1976	1-22	Sept 8 - Dec 18	8 (1 redhead or canvasback)
	23-37	Sept 1 - Dec 11	8 (1 redhead or canvasback)
1977	1-22	Sept 8 - Dec 17	6 (1 redhead or canvasback)
	23-37	Sept 1 - Dec 10	6 (1 redhead or canvasback)
1978	1-22	Sept 11 - Dec 16	6
	23-37	Sept 1 - Dec 9	6
1979	1-22	Sept 10 - Dec 15	8
	23-37	Sept 1 - Dec 8	8
1980	1-22	Sept 8 - Dec 13	8
	23-37	Sept 1 - Dec 6	8
1981 ***	1-22	Sept 7 - Dec 12	8
	23-37	Sept 1 - Dec 5	8
1982	1-22	Sept 8 - Dec 11	8
	23-37	Sept 1 - Dec 4	8
1983	1-22	Sept 7 - Dec 10	8
	23-37	Sept 1 - Dec 3	8

* Details omitted concerning some Wildlife Management Units (W.M.U.'s) and Provincial Parks. Hunting has traditionally been allowed in the following areas according to the regulations of the surrounding G.M.Z.'s: Last Mountain Lake, Pasquia and Porcupine W.M.U.'s; Meadow Lake, Nipawin and Lac la Ronge Provincial Parks; and Bronson Recreation Site.

** Possession limit twice the daily bag limit.

*** All special restrictions lifted from Canadian residents and non-residents.

Appendix 3b. Saskatchewan Goose Hunting Regulations, 1976-1983

Year	Area * (Game Management Zone)	Hunting Season Dates	Daily Bag Limit **
1976	1-6, 8, 9, 12-15, 22	Sept 29 - Dec 18	5 (2 whitefronts)
	7, 10, 11, 16-21	Sept 22 - Dec 18	5 (3 whitefronts)
	23-37	Sept 1 - Dec 11	5 (3 whitefronts)
	1-25, 28, 30, 32	Sept 1 - Oct 23	Morning Hunting Only
1977	1-6, 8, 9, 12-15, 22	Sept 28 - Dec 17	5 (2 whitefronts)
	7, 10, 11, 16-21	Sept 21 - Dec 17	5 (3 whitefronts)
	23-37	Sept 1 - Dec 10	5 (3 whitefronts)
	1-25, 28, 30, 32	Sept 1 - Oct 22	Morning Hunting Only
1978	1-6, 8, 9, 12-15, 22	Sept 27 - Dec 6	5 (2 whitefronts)
	7, 10, 11, 16-21	Sept 20 - Dec 16	5 (3 whitefronts)
	23-37	Sept 1 - Dec 9	5 (3 whitefronts)
	1-25, 28, 30, 32	Sept 1 - Oct 21	Morning Hunting Only
	All Zones	On and After Oct 16	3 Additional White Geese
1979	1-6, 8, 9, 12-15	Sept 26 - Dec 15	5 (2 whitefronts)
	7, 10, 11, 16-22	Sept 19 - Dec 15	5 (3 whitefronts)
	23-37	Sept 1 - Dec 8	5 (3 whitefronts)
	1-25, 28, 30-32	Sept 1 - Oct 20	Morning Hunting Only
	All Zones	On and After Oct 15	3 Additional White Geese
1980	1-6, 8, 9, 12-15	Sept 24 - Dec 13	5 (2 whitefronts)
	7, 10, 11, 16-22	Sept 17 - Dec 13	5 (3 whitefronts)
	23-37	Sept 1 - Dec 6	5 (3 whitefronts)
	1-25, 28, 30-32	Sept 1 - Dec 6	Morning Hunting Only
	All Zones	On and After Oct 15	3 Additional White Geese
1981	1-6, 8, 9, 12-15	Sept 23 - Dec 12	5 (2 whitefronts)
	7, 10, 11, 16-22	Sept 16 - Dec 12	5 (3 whitefronts)
	23-37	Sept 1 - Dec 5	5 (3 whitefronts)
	1-25, 28, 30, 32, 33	Sept 1 - Oct 20	Morning Hunting Only
	All Zones	On and After Oct 15	3 Additional White Geese
1982	1-6, 8, 9, 12-15	Sept 22 - Dec 11	5 (2 whitefronts)
	7, 10, 11, 16-22	Sept 15 - Dec 4	5 (3 whitefronts)
	23-37	Sept 1 - Dec 4	5 (3 whitefronts)
	1-25, 28, 30, 32	Sept 1 - Oct 20	Morning Hunting Only
	All Zones	On and After Oct 15	3 Additional White Geese
1983	1-6, 8, 9, 12-15	Sept 21 - Dec 10	5 (2 whitefronts)
	7, 10, 11, 16-22	Sept 14 - Dec 10	5 (3 whitefronts)
	23-37	Sept 1 - Dec 3	5 (3 whitefronts)
	1-25, 28, 30, 32, 33	Sept 1 - Oct 20	Morning Hunting Only
	1-37 (All Zones)	On and After Oct 15	3 Additional White Geese

* Details omitted concerning local closures, Wildlife Management Units (W.M.U.'s) and Provincial Parks. Hunting has traditionally been allowed in the following areas according to the regulations for the surrounding G.M.Z.'s: Last Mountain Lake, Pasquia and Porcupine W.M.U.'s; Meadow Lake, Nipawin and Lac la Ronge Provincial Parks.

** Possession limit twice the daily bag limit.

Appendix 3c. Saskatchewan Sharp-tailed Grouse Hunting Regulations, 1975-1983

Year	Area * (Game Management Zone)	Hunting Season Dates	Bag Limit	
			Day	Possession
1975	1-6	Sept 29 - Nov 15	4	8
	7-37	Oct 6 - Nov 15	3	6
1976	1-6, 8, 18-37	Sept 27 - Nov 13	5	10
	7, 9-17	Sept 27 - Nov 13	3	6
1977	1-22	Sept 26 - Nov 19	5	10
	23-36	Sept 12 - Nov 5	5	10
	37	Sept 5 - Nov 5	5	10
	Moose Mountain Park	Sept 26 - Oct 22	5	10
1978	1-22	Sept 25 - Nov 11	5	10
	23-33	Sept 18 - Nov 11	5	10
	34-37	Sept 4 - Nov 4	5	10
	Moose Mountain Park	Sept 25 - Oct 28	5	10
1979	1-22	Sept 24 - Nov 10	5	10
	23-33	Sept 17 - Nov 10	5	10
	34-37	Sept 3 - Nov 3	5	10
	Moose Mountain Park	Sept 24 - Oct 27	5	10
1980	1-33	Sept 22 - Nov 15	5	10
	34-37	Sept 1 - Nov 29	5	10
	Moose Mountain Park	Sept 22 - Oct 25	5	10
1981 **	1-33	Sept 21 - Nov 14	5	10
	34-37	Aug 31 - Dec 5	5	10
	Moose Mountain Park	Sept 21 - Oct 24	5	10
	Elbow, Estevan-Cambria and Lomond #3 W.M.U.'s	Oct 7 - Nov 14	5	10
1982	1, 7, 8 (east Hwy #2), 9-22	Oct 4 - Nov 13	5	10
	2-6, 8 (west Hwy #2)	Oct 13 - Nov 13	5	10
	23-33	Oct 4 - Nov 27	5	10
	34-37	Aug 30 - Nov 27	5	10
1983 ***	1-4, 7-15	Oct 3 - Nov 12	5	10
	5, 6	Oct 3 - Nov 12	3	6
	16-22	Sept 26 - Nov 12	5	10
	23-37	Sept 5 - Dec 3	5	10

* Details omitted concerning some Wildlife Management Units and Provincial Parks. Hunting has traditionally been allowed in the following areas according to the regulations pertaining to the surrounding G.M.Z.'s: Elbow, Last Mountain Lake, Fort a la Corne, Estevan-Cambria, Lomond #3, Pasquia and Porcupine W.M.U.'s; Nipawin, Meadow Lake and Lac la Ronge Provincial Parks; and Bronson Recreation Site.

** All special restrictions lifted from Canadian residents; non-residents permitted to hunt in Zone 5.

*** Non-residents of Canada not permitted to hunt in Zones 5, 6, 14, and 15.

Appendix 3d. Saskatchewan Hungarian Partridge Hunting Regulations, 1975-1983

Year	Area * (Game Management Zone)	Hunting Season Dates	Bag Limit	
			Day	Possession
1975	1-6	Sept 29 - Nov 15	5	10
	7-22	Oct 6 - Nov 15	3	6
1976	1-6, 8	Sept 27 - Nov 13	6	12
	7, 9-22	Sept 27 - Nov 13	3	6
1977	1-15	Sept 26 - Nov 19	7	14
	16-22	Sept 26 - Nov 19	5	10
1978	1-9	Sept 25 - Nov 11	6	12
	10-22	Sept 25 - Nov 11	3	6
1979	1-16	Sept 24 - Nov 10	6	12
	17-22	Sept 24 - Nov 10	3	6
1980	1-16	Sept 22 - Nov 15	6	12
	17-22	Sept 22 - Nov 15	3	6
1981 **	1-16	Sept 21 - Nov 14	6	12
	17-22	Sept 21 - Nov 14	3	6
	Elbow, Estevan-Cambria and Lomond #3 W.M.U.'s	Oct 7 - Nov 14	6	12
1982	1, 7, 8 (west Hwy #2), 9-16	Sept 27 - Nov 13	5	10
	2-6, 8 (east Hwy #2)	Oct 13 - Nov 13	5	10
	Elbow, Estevan-Cambria	Oct 4 - Nov 13	5	10
	and Lomond #3 W.M.U.'s			
	17-22	Sept 27 - Nov 13	3	6
1983 ***	1-12	Sept 26 - Nov 12	10	20
	Some W.M.U.'s	Oct 3 - Nov 12	10	20
	13-22	Sept 26 - Nov 12	5	10

* Details omitted concerning some Wildlife Management Units (W.M.U.'s) and Provincial Parks. Hunting has traditionally been allowed in the following areas, according to the regulations pertaining to the surrounding G.M.Z.'s: Elbow and Last Mountain Lake Wildlife Management Units.

** Special restrictions lifted from Canadian residents.

*** Non-residents of Canada not permitted to hunt partridge in Zones 5, 6, 14, and 15.

Appendix 3e. Saskatchewan Pheasant Hunting Regulations, 1975-1983

(Cock Birds Only)

Year	Area * (Game Management Zone)	Hunting Season Dates	Bag Limit	
			Day	Possession
1975	1-6	Oct 6 - Nov 15	4	8
	7-17	Oct 6 - Nov 15	3	6
	6	Dec 8 - Dec 27	4	8
1976	7, 16, 17	Oct 4 - Oct 23	2	4
	1-6, 8	Oct 4 - Nov 13	5	10
	5, 9-15	Oct 4 - Nov 13	2	4
	3	Dec 6 - Jan 1/77	5	10
1977	1-17	Oct 3 - Nov 19	5	10
	6	Dec 5 - Dec 31	5	10
1978	1-17	Oct 2 - Nov 11	5	10
	6	Dec 4 - Dec 30	5	10
1979	1-17	Oct 1 - Nov 10	5	10
	6	Dec 3 - Dec 29	5	10
1980	1-17	Oct 6 - Nov 15	5	10
	6	Dec 1 - Jan 3/81	5	10
1981	1-17 including Last Mountain Lake, Estevan- Cambria & Lomond #3 W.M.U.'s	Oct 7 - Nov 14	5	10
	1-5, 8	Nov 30 - Dec 12	5	10
	6	Nov 30 - Jan 2/82	5	10
1982	1-17	Oct 7 - Nov 14	5	10
	1-9, 12, 17	Nov 26 - Dec 18	5	10
1983	1-17	Oct 5 - Nov 12	5	10
	1-9, 12, 17	Nov 28 - Dec 17	5	10

* Details omitted concerning some Wildlife Management Units (W.M.U.'s). Hunting has traditionally been allowed in Elbow and Last Mountain Lake W.M.U.'s according to the regulations pertaining to the surrounding G.M.Z.'s. Seasons have been held in Estevan-Cambria and Lomond #3 W.M.U.'s since 1981.

NOTE: Only Saskatchewan residents may hunt pheasants.

Appendix 3f. Saskatchewan Ruffed Grouse Hunting Regulations, 1975-1983

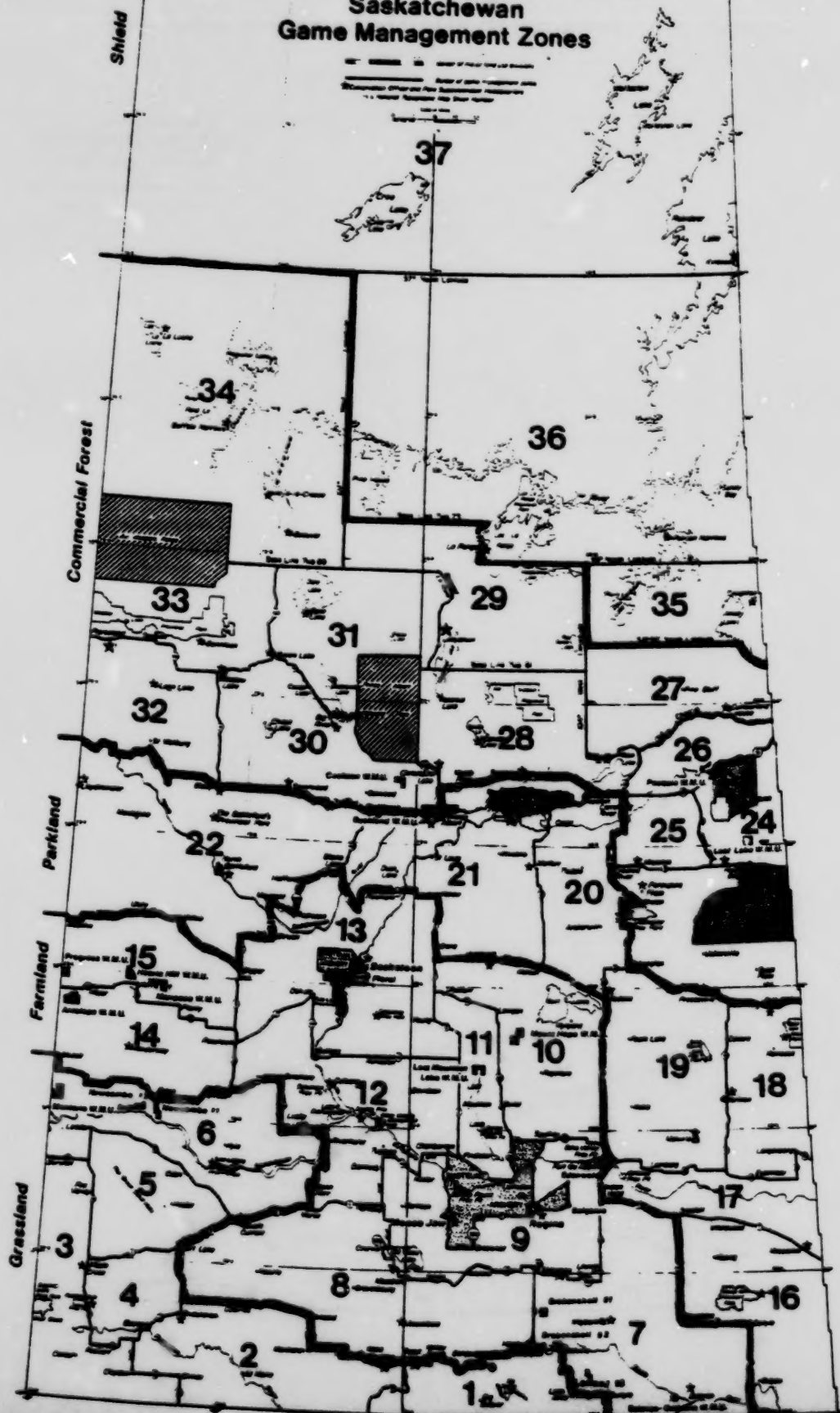
Year	Area * (Game Management Zone)	Hunting Season Dates	Bag Limit	
			Day	Possession
1975	1-22	Oct 6 - Nov 15	4	8
	23-37	Sept 22 - Dec 6	4	8
1976	1-15	Sept 27 - Nov 13	4	8
	16-22	Sept 27 - Nov 13	6	12
	23-37	Sept 20 - Dec 4	6	12
1977	1-15	Sept 26 - Nov 19	5	10
	16-22	Sept 26 - Nov 19	5	10
	23-36	Sept 12 - Dec 10	10	20
	37	Sept 5 - Dec 10	10	10
	Moose Mountain Park	Sept 26 - Oct 22	10	20
1978	1-15	Sept 25 - Nov 11	5	10
	16-22	Sept 25 - Nov 11	10	20
	23-37	Sept 4 - Dec 2	10	20
	Moose Mountain Park	Sept 25 - Oct 28	10	20
1979	1-15	Sept 24 - Nov 10	5	10
	16-22	Sept 24 - Nov 10	10	20
	23-37	Sept 3 - Dec 1	10	20
	Moose Mountain Park	Sept 24 - Oct 27	10	20
1980	1-22	Sept 22 - Nov 15	5	10
	23-37	Sept 1 - Dec 6	5	10
	Moose Mountain Park	Sept 22 - Oct 25	5	10
1981 **	1-22	Sept 21 - Nov 14	5	10
	23-37	Aug 31 - Dec 5	5	10
	Elbow W.M.U.	Oct 7 - Nov 14	5	10
	Moose Mountain Park	Sept 21 - Oct 24	5	10
1982	1-22	Sept 27 - Nov 13	5	10
	23-33	Sept 13 - Nov 27	5	10
	34-37	Aug 30 - Nov 27	5	10
	Elbow W.M.U.	Oct 4 - Nov 13	5	10
	Moose Mountain Park	Nov 1 - Nov 24	5	10
	Greenwater Lake Park	Nov 1 - Nov 27	5	10
1983	1-22	Sept 26 - Nov 12	5	10
	23-37	Sept 5 - Dec 3	5	10
	Elbow W.M.U.	Oct 3 - Nov 12	5	10
	Moose Mountain Park	Oct 31 - Nov 26	5	10
	Greenwater Lake Park	Oct 24 - Dec 3	5	10

* Details omitted concerning some Wildlife Management Units (W.M.U.'s) and Provincial Parks. Hunting has traditionally been allowed in the following areas, according to the regulations pertaining to the surrounding G.M.Z.'s: Elbow, Last Mountain Lake, Fort a la Corne, Pasquia and Porcupine W.M.U.'s; Nipawin, Meadow Lake, and Lac la Ronge Provincial Parks.

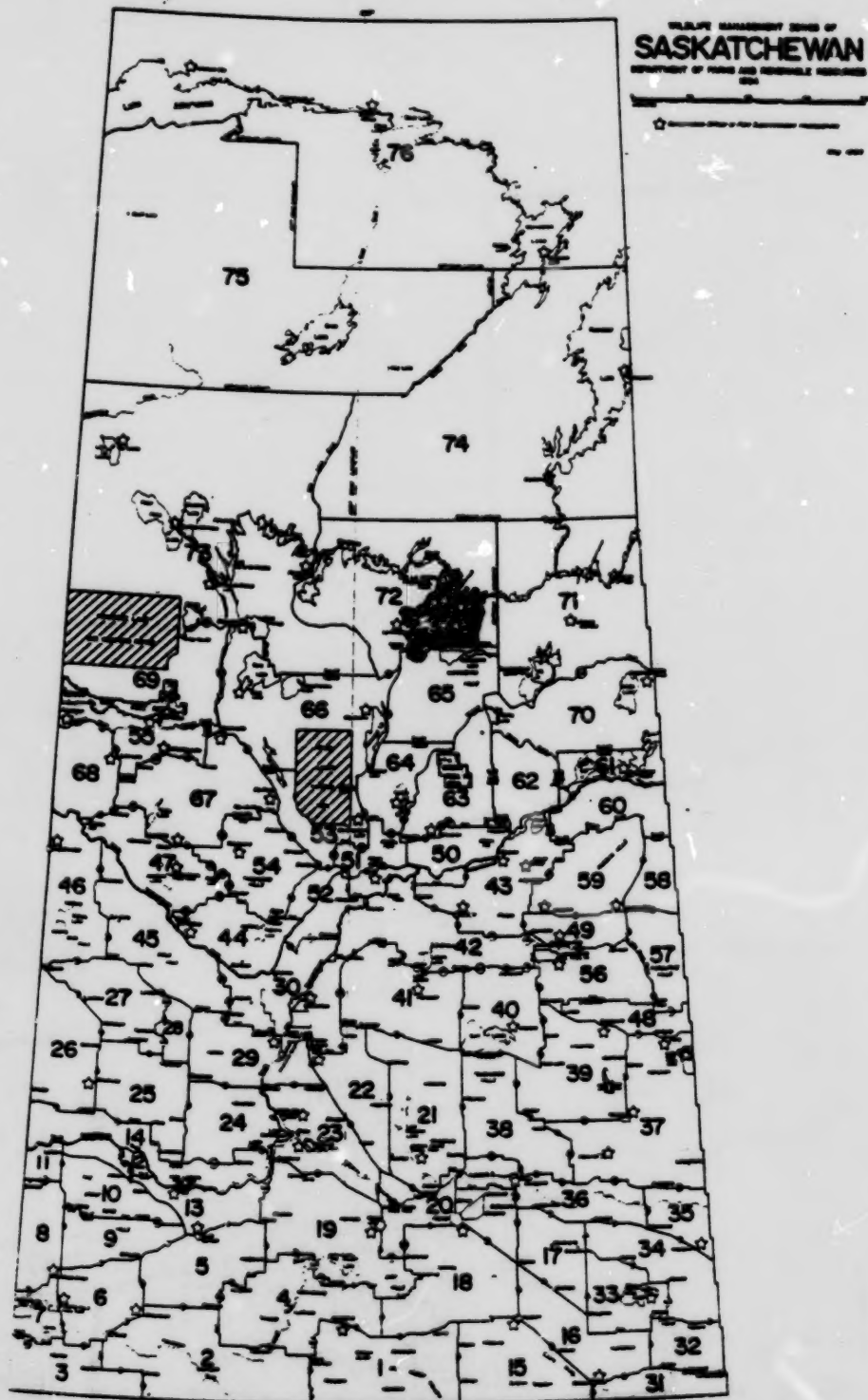
** Special restrictions lifted from Canadian residents.

Appendix 4a. Saskatchewan Game Management Zones, 1975-1983.

**Saskatchewan
Game Management Zones**



Appendix 4b. Saskatchewan Wildlife Management Zones 1984



Appendix 5. 1983 Saskatchewan Game Bird Hunter Survey Questionnaire



A Message from the Director of Wildlife

Fellow Sportsman:

A selection of game bird hunters throughout Saskatchewan have received this questionnaire. Why is it worth your effort to fill it out?

When combined with other reports of hunting activity, the survey results indicate hunting pressure and the sport hunter kill in each game management zone. It's important for wildlife managers to know these things. Without the information that hunters supply, making correct decisions about season dates and bag limits would be virtually impossible. Continued hunting enjoyment and wildlife conservation depends on your involvement!

You may say, "Fine, but why do I seem to get one of these things every year?"

Because hunting success and game bird populations can change a lot from year to year, the Game Bird Hunter Survey is done annually. Not only can extreme weather influence game bird winter survival and nesting success — it and other factors can alter hunting activity and the bird harvest. Responsible game management requires up-to-date information.

Secondly, the recipients of the survey are randomly selected by a computer, based on last year's licence sales. It is therefore possible, but not very probable, to be surveyed two or more years in a row. The excellent co-operation being received from hunters has enabled us to reduce the number of surveys mailed.

Please complete this survey form and return it in the enclosed postage paid envelope when you have finished hunting this year. If you don't buy a game bird licence this fall, or if you buy a licence but don't get out to hunt, please return the questionnaire anyway. All information is essential to a good survey.

We realize that you may be interested in the information collected last year. A summary is provided on the last page of this form.

Your help in filling out the Game Bird Hunter Survey is greatly appreciated. By doing so, you will be contributing to better wildlife management in Saskatchewan.

Yours in good faith,

Rose MacLennan
R. R. MacLennan
Director,
Wildlife Branch

- (See Examples)

[illegible]

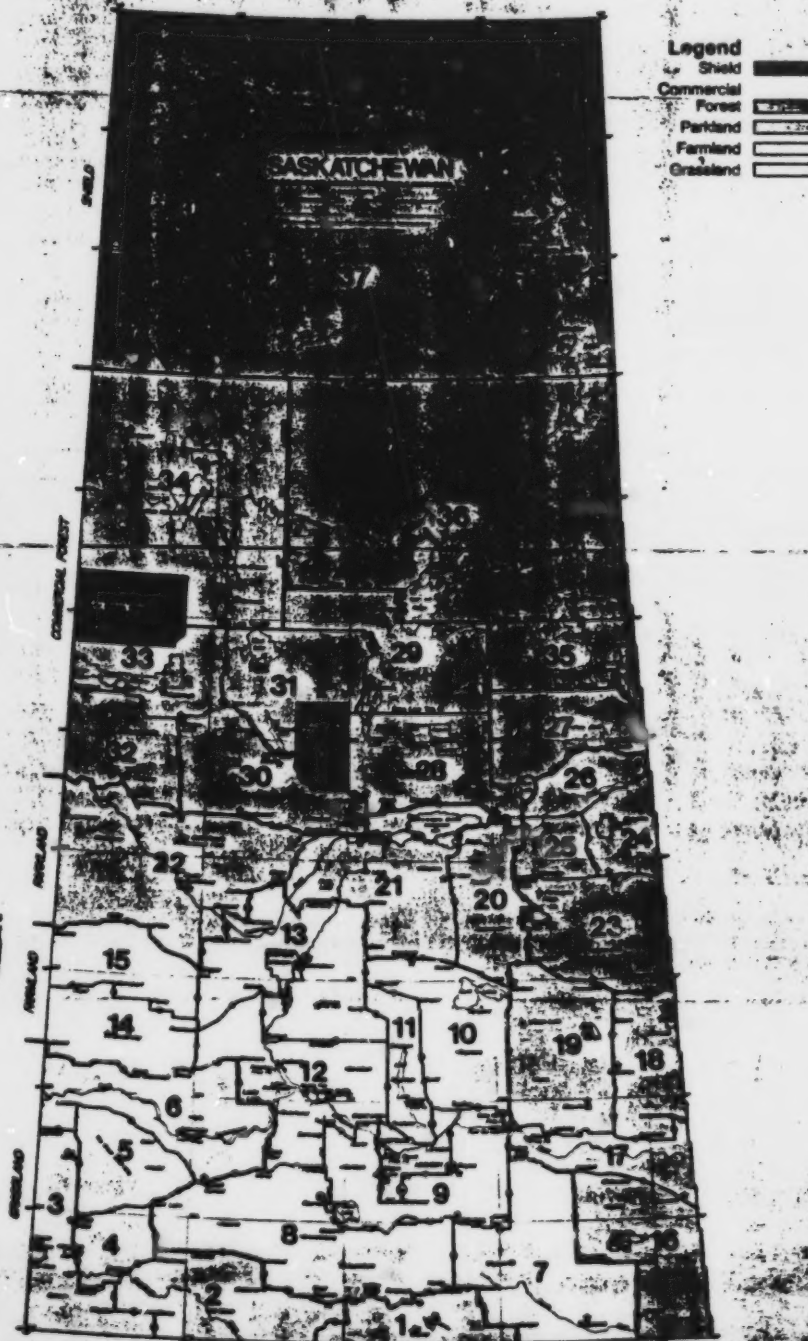
Hunter Comments?

Please tear off this section before mailing back the questionnaire, in the enclosed, postage-paid envelope.

September						
SUN	MON	TUE	WED	THU	FRI	SAT
...	...	...	...	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

October						
SUN	MON	TUE	WED	THU	FRI	SAT
...	...	...	...	...	...	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

November						
SUN	MON	TUE	WED	THU	FRI	SAT
...	...	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			



1982 Hunting Activity

Poor duck hunting persisted and reduced all game bird hunting activity in 1982. Saskatchewan game bird licence sales of 58,000 were similar to 1981, but well below the recent level of 68,000.

About 50,000 Saskatchewan residents hunted game birds last fall. Canadian residents and non-residents of the country bought 3,700 and 4,100 licences, respectively. In addition, 5,700 pheasant licences were sold to provincial residents.

Saskatchewan attracted 42,000 waterfowl hunters last fall who were afield an average of 2.5 days each. Goose hunting remained good, in contrast to the duck hunting.

Reduced populations of most upland game bird species also led to a decline in hunting activity. The 27,000 upland bird hunters spent an average of 1.9 days afield.

Additional information on the 1982 game bird season is listed below:

	Harvest			Active Hunters		
	1980	1981	1982	1980	1981	1982
Ducks	400,000	240,000	290,000	40,000	30,000	34,000
Geese	185,000	159,000	165,000	35,000	29,000	32,000
Sandhill Cranes	4,000	2,200	1,500	2,000	1,000	1,000
Sharp-tailed Grouse	108,000	83,000	72,000	28,000	24,000	20,000
Hungarian Partridge	86,000	64,000	70,000	21,000	20,000	17,000
Ruffed Grouse	92,000	37,000	7,000	18,000	14,000	10,000
Spruce Grouse	12,000	8,000	6,000	12,000	1,100	1,000
Pheasant	12,000	13,000	7,500	4,200	4,800	3,000

More detailed information concerning game bird management and surveys can be obtained from the Extension Services Branch, Saskatchewan Parks and Renewable Resources, 3211 Albert Street, Regina, Sask. S4S 5W6, or your local regional office.

Saskatchewan



Saskatchewan
Parks and
Renewable
Resources

3211 Albert Street
Regina, Canada
S4S 5W6

November 17, 1983.

Your File:
Our File:

Fellow Sportsman:

A couple of months ago a questionnaire was mailed to you asking that you report all your game bird hunting activities in Saskatchewan during the 1983 season. To date, we have not received your reply.

IF YOU HAVE ALREADY COMPLETED AND MAILED THE ORIGINAL QUESTIONNAIRE, OR PLAN TO DO MORE GAME BIRD HUNTING THIS YEAR, PLEASE DISREGARD THIS NOTICE.

If, however, you are finished bird hunting and have not returned your hunting information, please complete and return the enclosed questionnaire as soon as possible in the self-addressed, postage-paid envelope.

By filling out the Game Bird Questionnaire, you will be providing the Wildlife Branch with essential information on the hunting season which can't be obtained without your assistance.

We hope that you will take this opportunity to make an important contribution to wildlife management in Saskatchewan.

Yours sincerely,

Ross MacLennan,
Director,
Wildlife Branch.

SM/sr
Encl.

Appendix 7.

Criteria to be used to determine duck bag limits in Saskatchewan during stabilized hunting regulations, 1979-1984.

1. The duck bag limit in Saskatchewan will be 8 birds per day, 16 in possession with no species restriction except where:

- $P + M \leq 3.0$ m. or $M \leq 1.75$ m. when the bag limit = 6 per day;
12 in possession.

- $P + M \leq 2.5$ m. or $M \leq 1.5$ m. when the bag limit = 4 per day;
8 in possession.

When bag limits identified by $P + M$ differ from M , $P + M$ limits will be implemented only when similar $P + M$ values occur for 2 years in a row.

2. The third option (4 bag limit) is considered a response to a crisis situation and will be considered only when equivalent harvest reductions are implemented throughout the Central and Mississippi Flyways.

(After Prairie Waterfowl Harvest Program 1979-84 - Saskatchewan).

Note: where P is the number of May ponds and M is the number of breeding mallards in southern Saskatchewan (strata 30 to 35) and m = million.
i.e. If the number of May ponds and breeding mallards totals less than 3 million or the breeding mallard population is less than 1.75 million the daily bag and possession limits will be 6 and 12.

Appendix 8.

Sharp-tailed Grouse Reproduction* in Saskatchewan, 1983

Game Management Area	Sample Size	% Juveniles	Juveniles/Adult
GRASSLAND	162	52	1.07
8	209	64	1.75
9	214	61	1.55
10	63	51	1.03
11	115	68	2.11
FARMLAND	712	62	1.63
PARKLAND	71	58	1.37
PROVINCE	972	59	1.45

* Based on sample of wings from hunter-killed birds. Areas with samples of less than 50 generally not shown.

Appendix 9. Hungarian Partridge Reproduction* in Saskatchewan, 1983

Game Management Area	Sample Size	% Juveniles	Juveniles/Adult
5	62	79	3.77
6	132	69	2.22
GRASSLAND	250	70	2.38
8	515	78	3.73
9	79	76	3.16
11	110	72	2.55
12	53	83	4.89
14	55	73	2.67
FARMLAND	905	78	3.46
PROVINCE	1,183	76	3.21

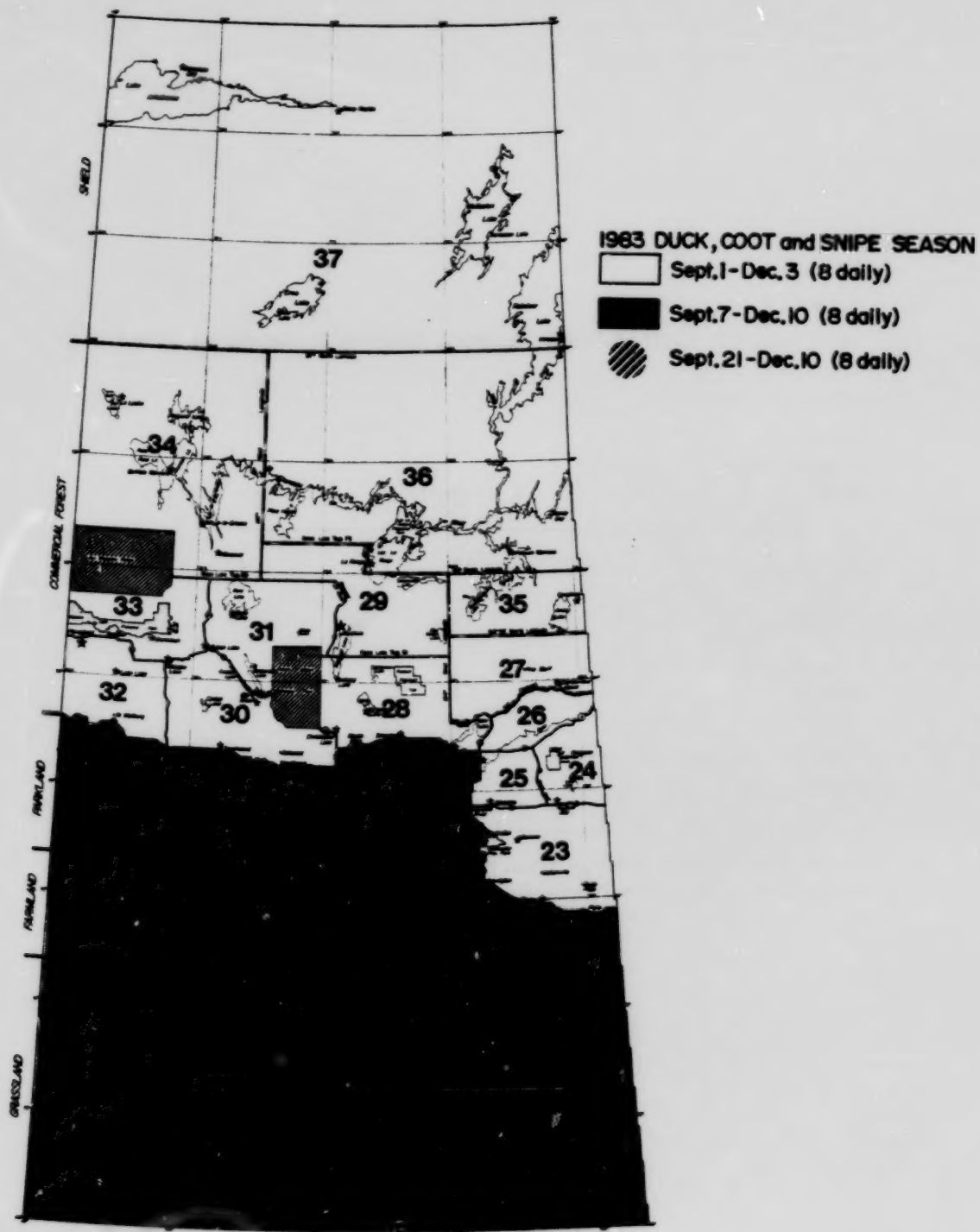
* Based on sample of wings from hunter-killed birds. Areas with samples of less than 50 generally not shown.

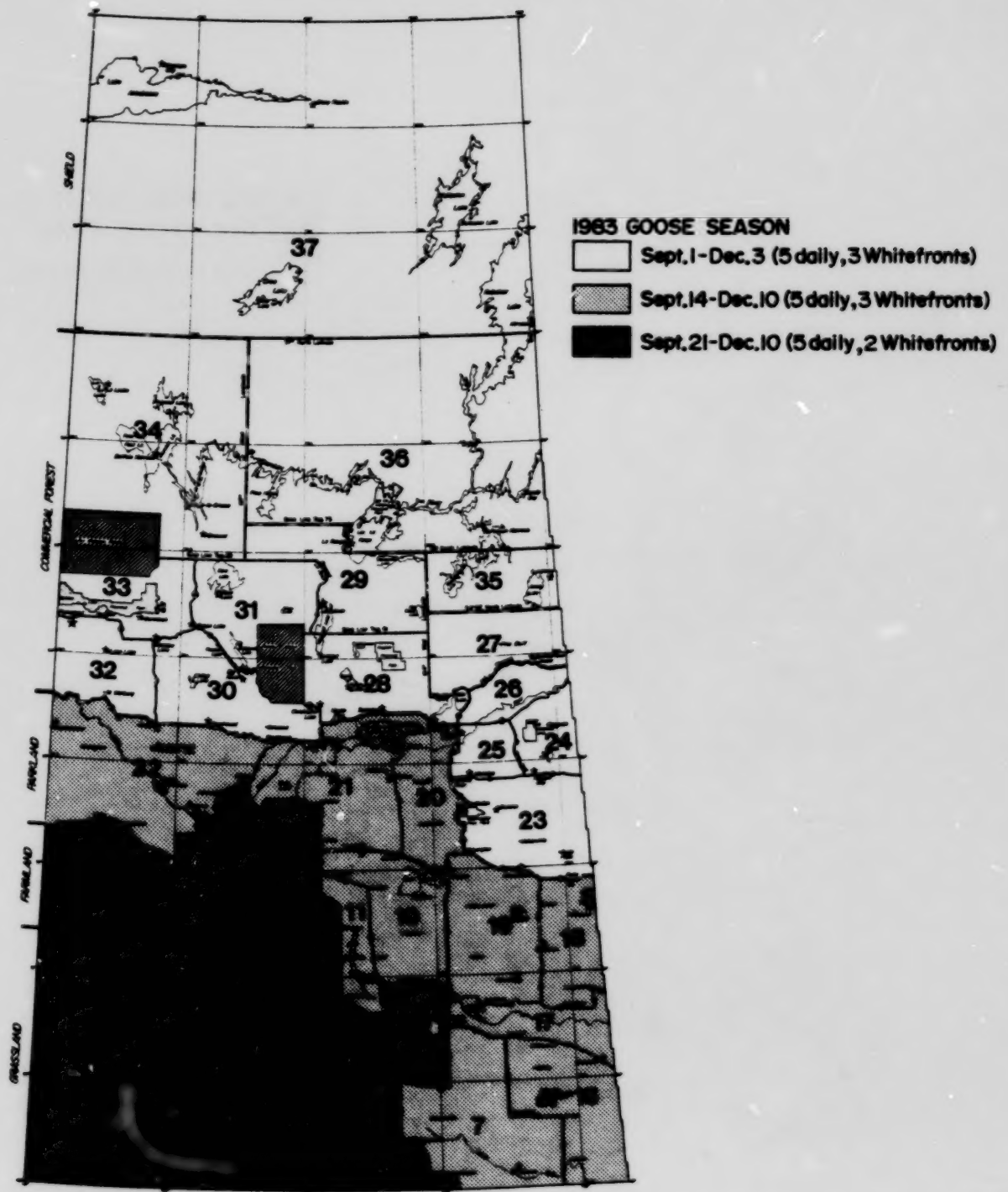
Appendix 10. Ruffed Grouse Reproduction* in Saskatchewan, 1983

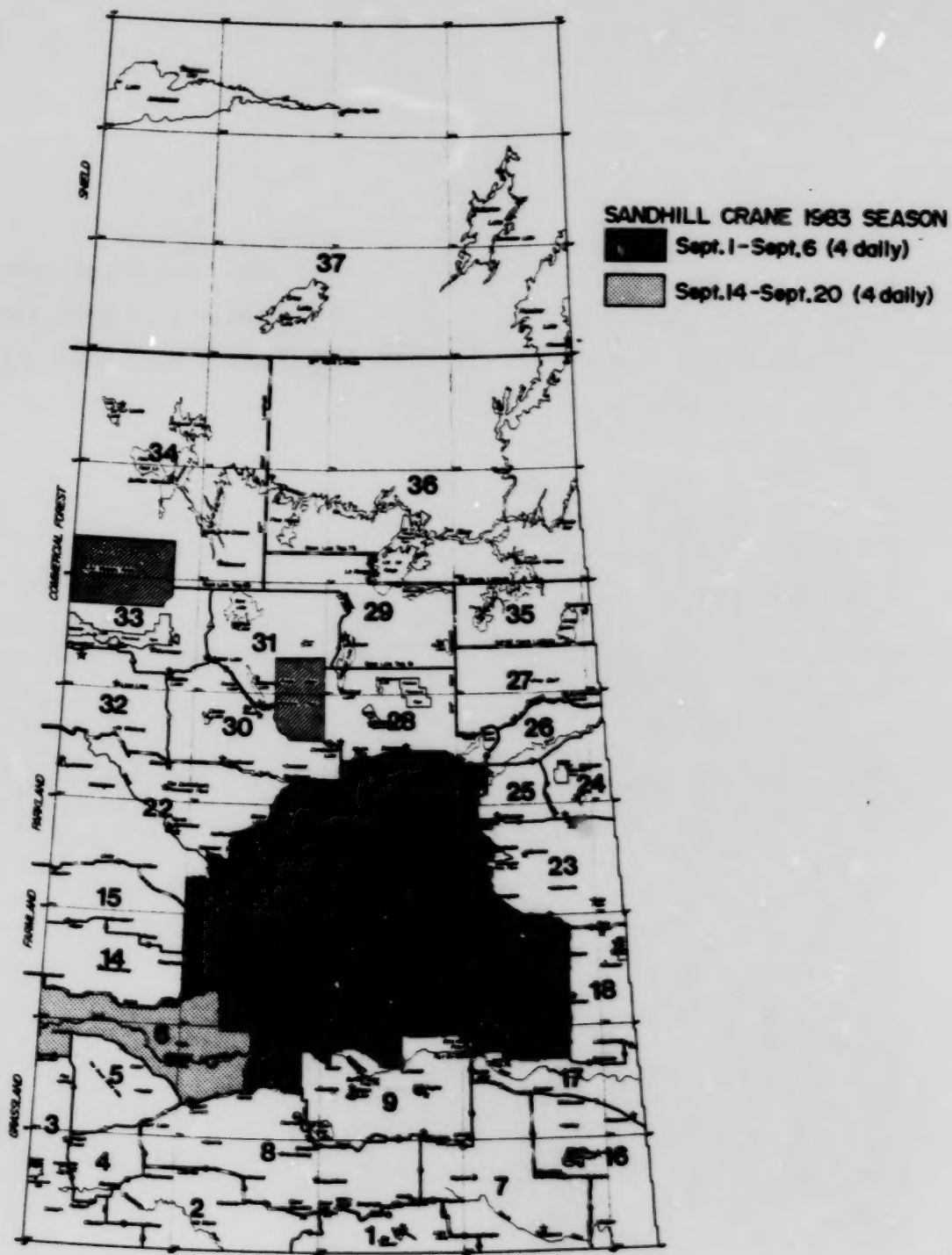
Game Management Area	Sample Size	% Juveniles	Juveniles/Adult
Farmland	30	53	1.14
Parkland	56	70	2.29
Commercial Forest	58	83	4.80
PROVINCE	144	72	2.51

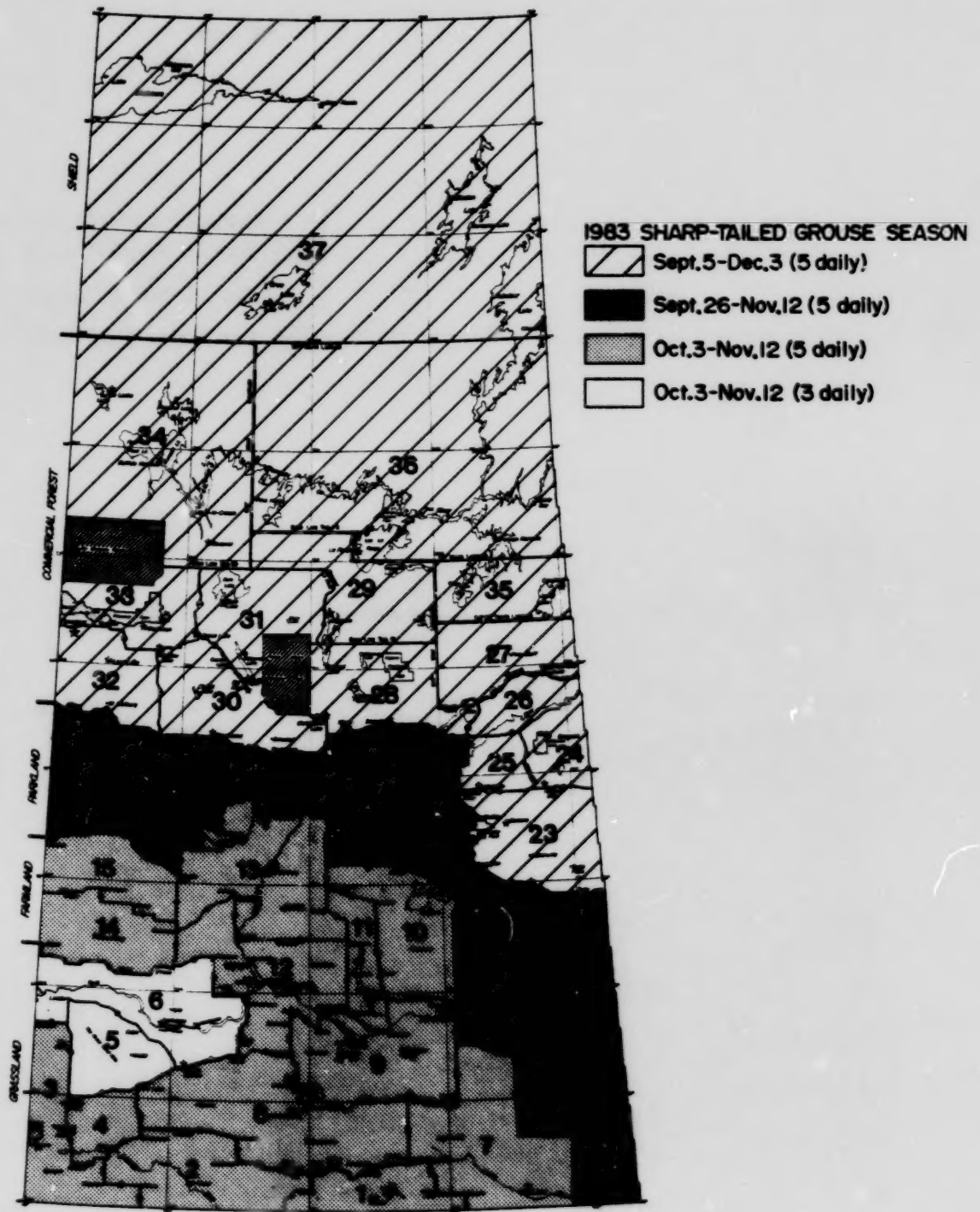
* Based on sample of wings from hunter-killed birds. Areas with samples of less than 25 not shown.

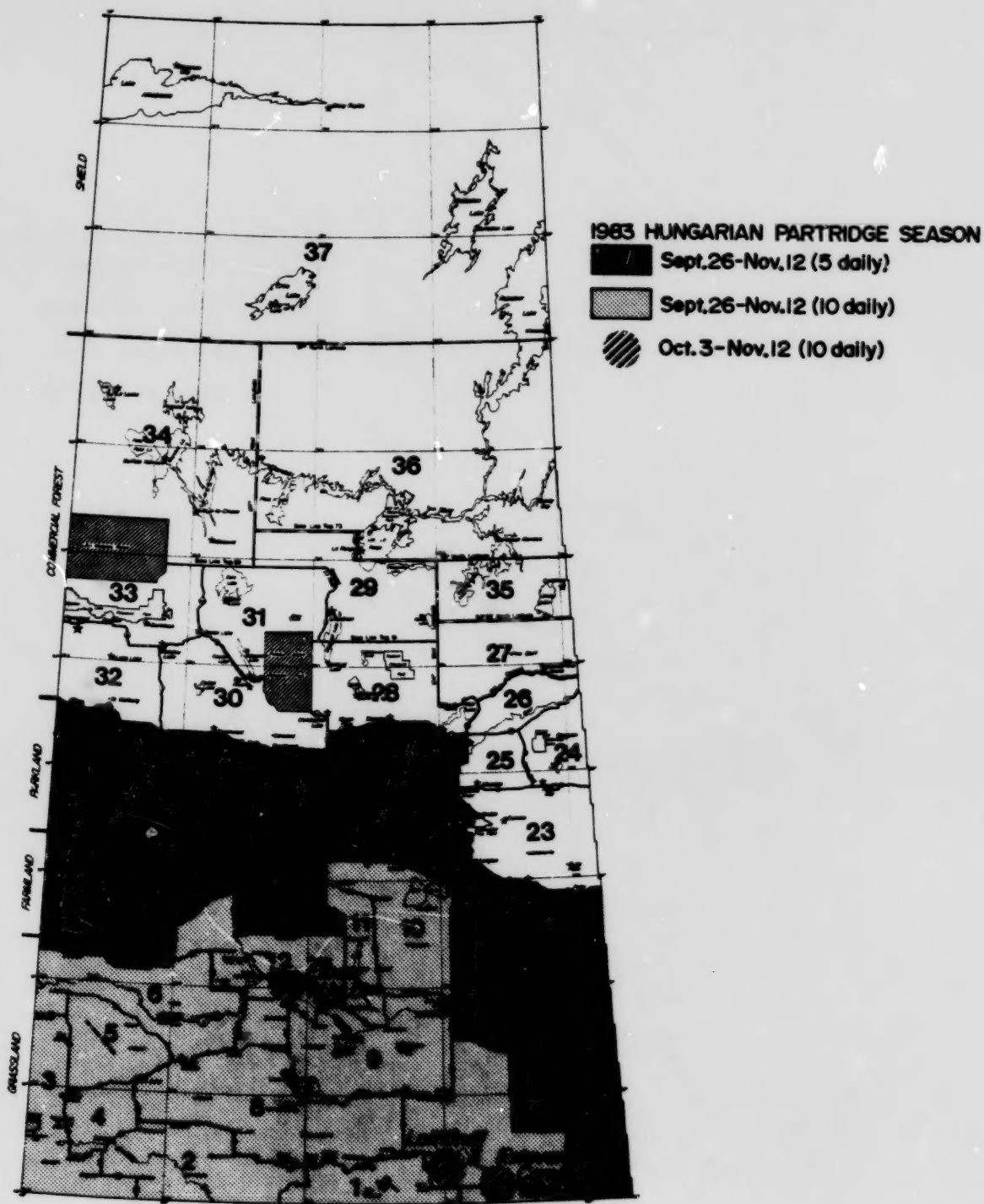
Appendix 11. 1983 Game Bird Seasons by Game Management Zone

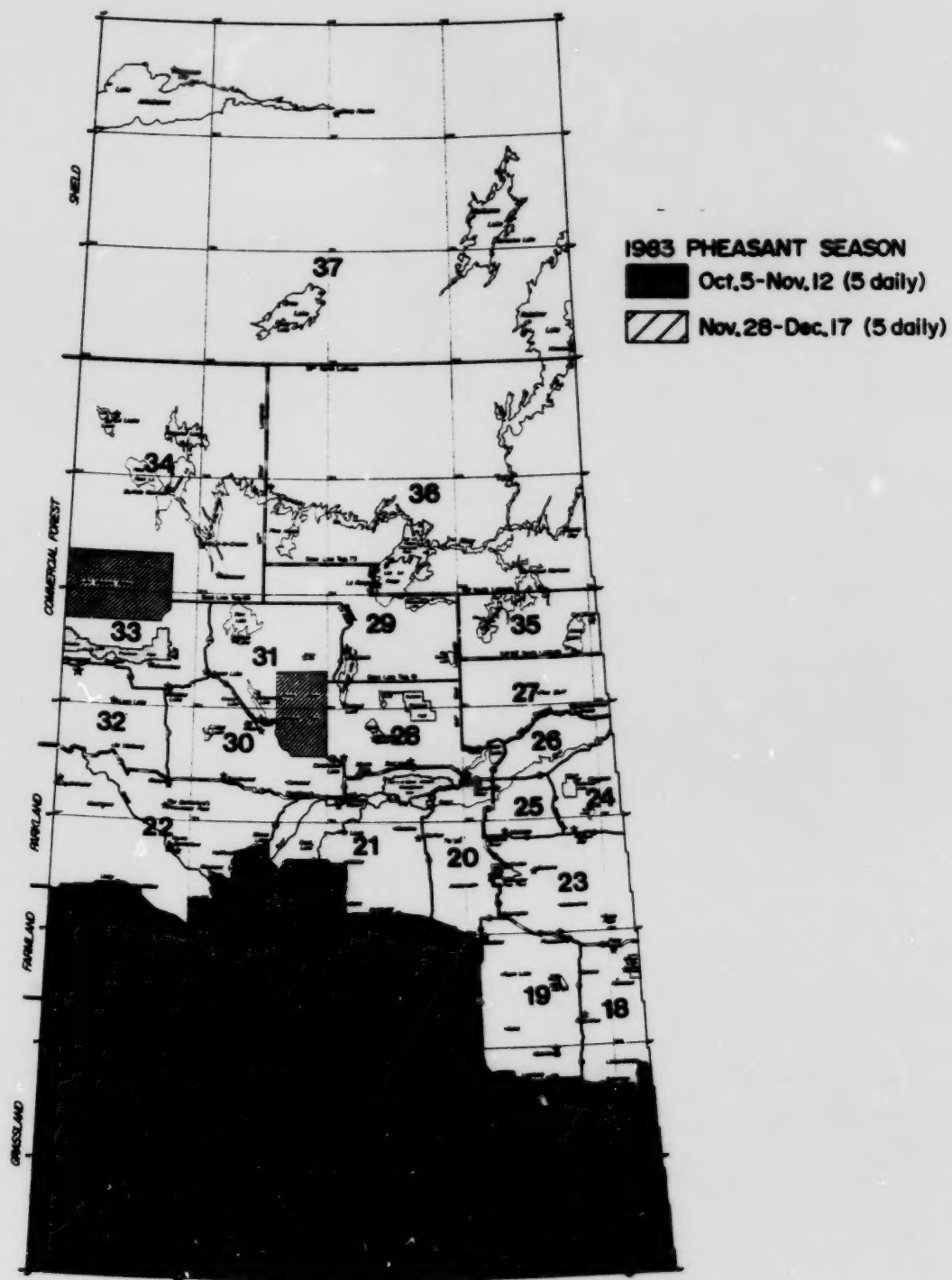


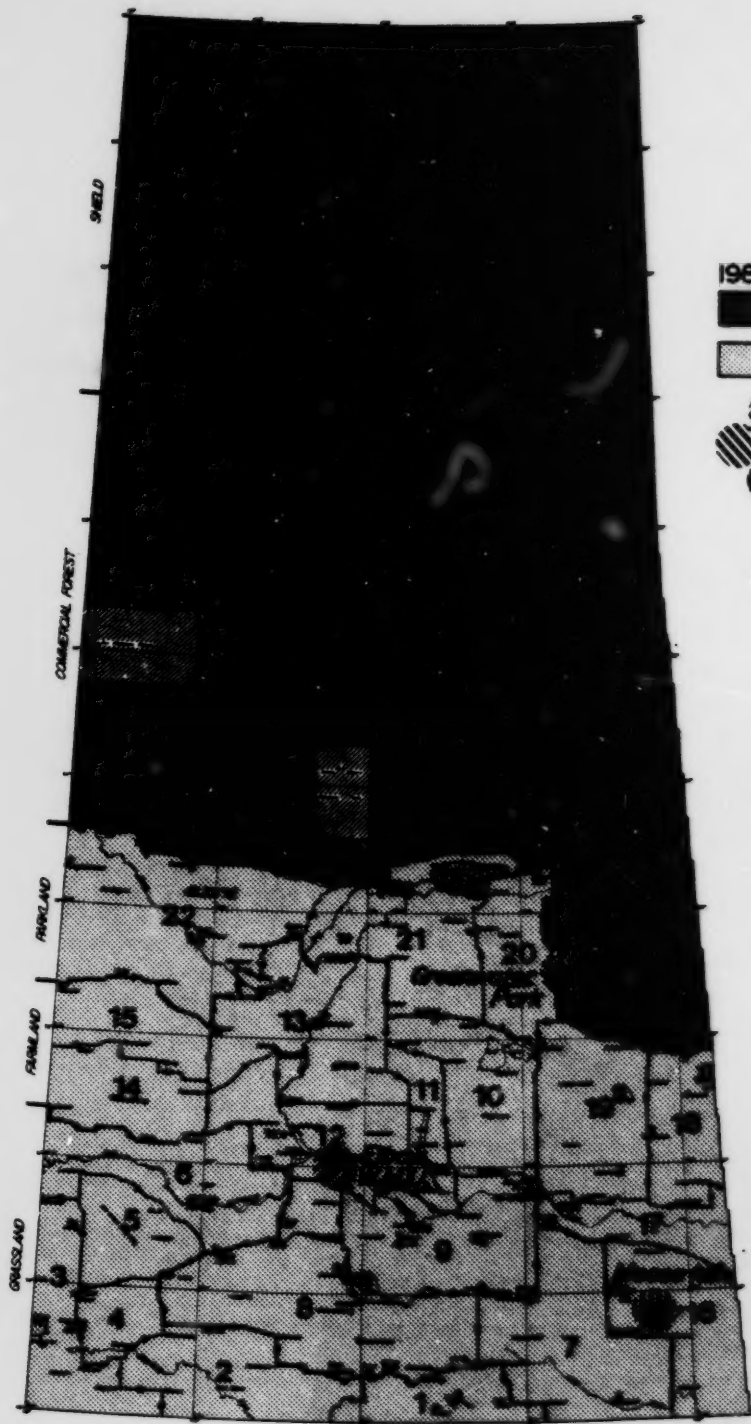






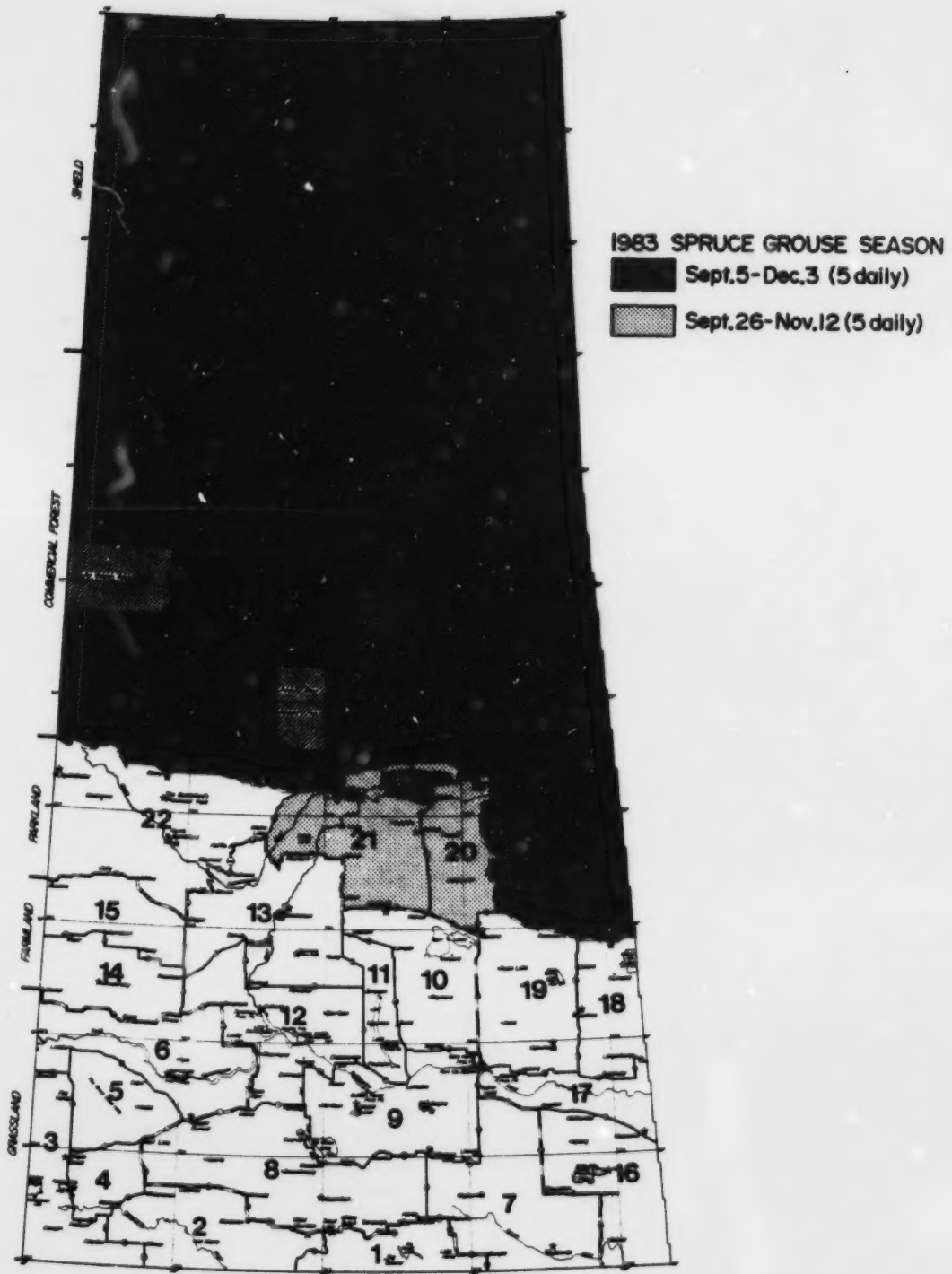


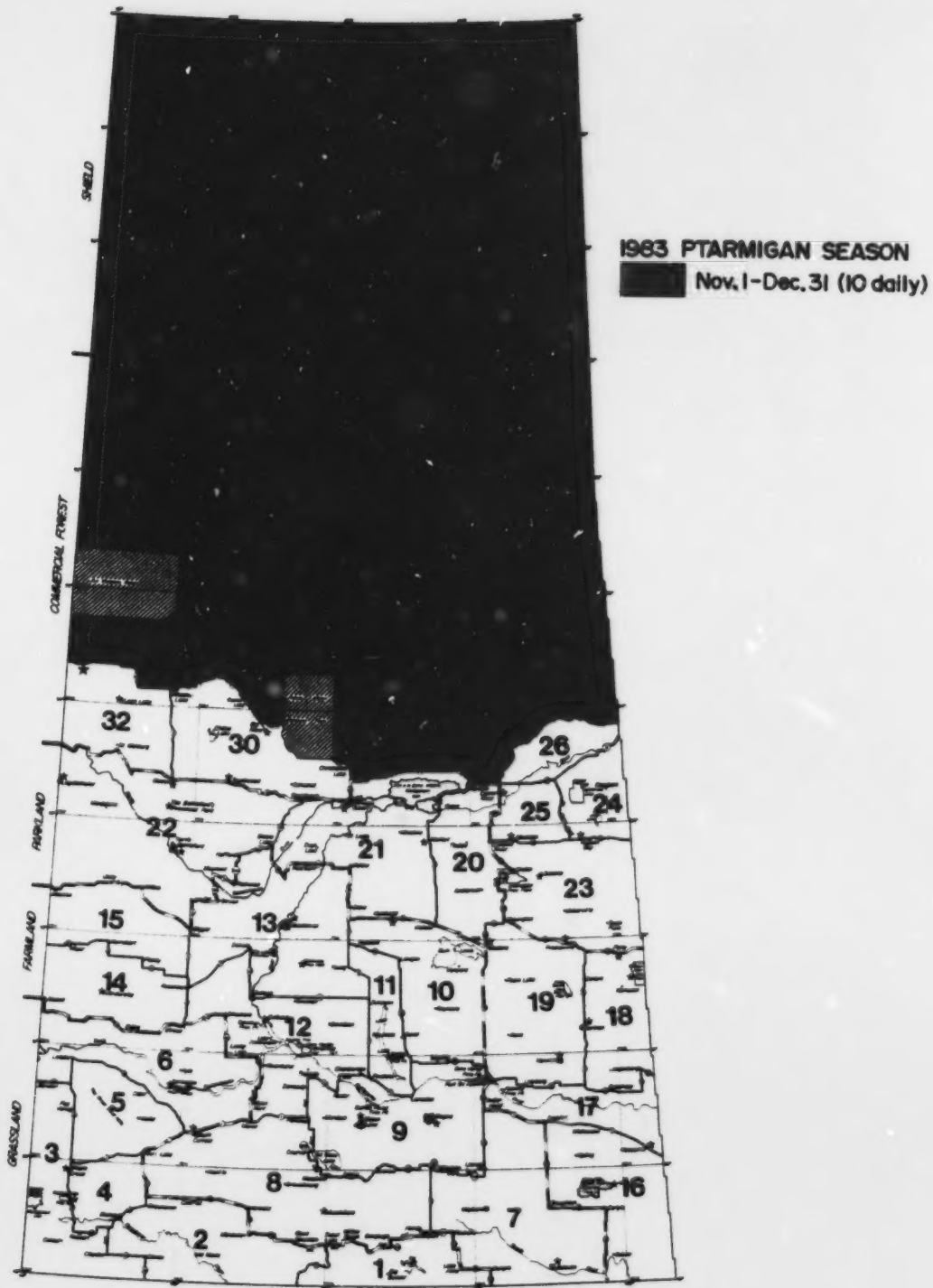




1983 RUFFED GROUSE SEASON

-  Sept. 5-Dec. 3 (5 daily)
-  Sept. 26-Nov. 12 (5 daily)
-  Oct. 3-Nov. 12 (5 daily)
-  Oct. 24-Dec. 3 (5 daily)
-  Oct. 31-Nov. 26 (5 daily)





Appendix 12. 1983 Saskatchewan Big Game Seasons

1983 Big Game Seasons

Species	Game Management Zones Open	Season Dates (Inclusive)	Limit	General Information
White-tailed Deer (Primitive Weapons, Saskatchewan Residents Only)	Zones 1 to 4, 6 to 17, 19 to 22, 28, 29, 34 to 37, including Fort a la Corne Wildlife Management Unit, Nipawin and Lac La Ronge Provincial Parks	Archery Sept. 5 - Oct. 15 Muzzleloading Rifles Oct. 3 - Oct. 15	one white-tailed deer, either sex	- An unsuccessful archer may purchase a first or second regular licence to hunt white-tailed deer by turning in unused archery licences at any Department office
ARCHERY AND MUZZLELOADING RIFLES 	Zone 5	Archery Sept. 12 - Oct. 15 Muzzleloading Rifles Oct. 3 - Oct. 15	one white-tailed deer, either sex	- Second white-tailed deer licences are valid only in Zones 23 to 27, and 30 to 33.
	Zone 18, including Duck Mountain Provincial Park	Archery Sept. 5 - Oct. 15 Muzzleloading Rifles Oct. 3 - Oct. 15	one antlered white-tailed deer	- Muzzleloading rifle white-tailed deer licences valid only in muzzleloading season Oct. 3 to Oct. 15 except in the Shotgun-Muzzleloader-Archery areas of Zone 9 and 13.
	Zones 23 to 27, 30 to 33, including Pasquia and Porcupine Wildlife Management Units, Meadow Lake and Greenwater Lake Provincial Parks, and Bronson Recreation Site	Archery Sept. 5 - Oct. 15 Muzzleloading Rifles Oct. 3 - Oct. 15	two white-tailed deer, either sex; separate licences required	- "Antlered White-tailed Deer" means any deer with an antler or antlers at least 10 centimeters in length as measured from the outside of the skull to the tip.
White-tailed Deer (Sask. Residents, Canadian Residents, and Non-residents)	Zones 28, 29, and 34 to 37, including Nipawin and Lac La Ronge Provincial Parks	Nov. 7 - Dec. 3	one white-tailed deer, either sex	- Second white-tailed deer licences are valid only in Zones 23 to 27, and 30 to 33.
	Zones 23 to 27, 30 to 33, including Laif Lake, Pasquia, and Porcupine Wildlife Management Units, and Greenwater Lake and Meadow Lake Provincial Parks, and Bronson Recreation Site	Nov. 7 - Dec. 3	two white-tailed deer, either sex; separate licences required	
	Zones 1 to 6, and 8	Sask. Residents Nov. 14 - Nov. 19 Canadian Residents Nov. 14 - Nov. 19	one white-tailed deer, either sex	- "Antlered White-tailed Deer" means any deer with an antler or antlers at least 10 centimeters in length as measured from the outside of the skull to the tip.
	Zones 7, 10 to 12, 14 to 17, and 19 to 22, including Brokenhead No. 1 and No. 2, Estevan-Cambria, Lomond No. 3 (at Maxim), Elbow, Fort a la Corne, and Last Mountain Lake Wildlife Management Units, and Moose Mountain Provincial Park	Sask. Residents Nov. 14 - Nov. 26 Canadian Residents Nov. 21 - Nov. 26	one white-tailed deer, either sex	- Holders of unused first primitive weapons licences may hunt white-tailed deer in the Shotgun-Muzzleloader-Archery areas of Zones 9 and 13 during the regular season.
	Zones 9 and 13, during that period of each day from 1/2 hour before sunrise to 12:00 noon C.S.T.	Sask. Residents Nov. 14 - Nov. 26 Canadian Residents Nov. 21 - Nov. 26	one white-tailed deer, either sex	- Please refer to enclosed map for the portion of Management Zones 9 and 13 restricted to shotgun, muzzleloading rifle and archery hunting.
	Shotgun-Muzzleloader-Archery areas of Zones 9 and 13 (regular hours)	Sask. Residents Nov. 14 - Nov. 26 Canadian Residents Nov. 21 - Nov. 26	one white-tailed deer, either sex	
	Zone 18, including Duck Mountain Provincial Park	Sask. Residents Nov. 14 - Nov. 26 Canadian Residents Nov. 21 - Nov. 26	one antlered white-tailed deer	
Regular Elk (Sask. Residents Only) 	Zones 23, 24, 25, 28, 31 and 33, including Pasquia and Porcupine Wildlife Management Units, Nipawin Provincial Park, and the northeast portion of Meadow Lake Provincial park north of the 17th Base Line	Sept. 19 - Oct 1 Dec. 5 - Dec. 10	one antlered elk	- "Antlered Elk" means any elk having an antler or antlers at least 15 centimeters in length as measured on the outside curve of the antler from the skull to the tip.
	Zones 26 and 27	Sept. 26 - Oct. 1 Dec. 5 - Dec. 10	one antlered elk	- NOTE: Hunters will be restricted to designated trails within the Cookson Wildlife Management Unit.
	That portion of Zone 30 east of Provincial Highway No. 55, including Cookson Wildlife Management Unit; and that portion of Zone 28 west of Provincial Highway No. 2	Nov. 7 - Dec. 10	one elk, either sex	- WATCH FOR SIGNS in Meadow Lake Provincial Park.

Regular Moose
(Sask. Residents Only)

EARLY SEASON

LATE SEASON



Zones 23 to 31 and 33, including Leaf Lake, Pasquia and Porcupine Wildlife Management Units, and Nipewin Provincial Park

Oct. 10 - Oct. 16

one bull or one 1983 calf moose

Zones 34 to 37, including Lac La Ronge Provincial Park

Sept. 5 - Sept. 24

one bull or one 1983 calf moose

Zones 23, 24, 26, including Leaf Lake, Pasquia and Porcupine Wildlife Management Units

Nov. 21 - Dec. 3

one bull or one 1983 calf moose

Zones 28 to 29, and 30 to 33, including Pasquia Wildlife Management Unit, Nipewin Provincial Park, and Bronson Recreation Site

Nov. 21 - Nov. 26

one bull or one 1983 calf moose

Zones 34 to 37, including Lac La Ronge Provincial Park

Nov. 7 - Dec. 3

one bull or one 1983 calf moose

- "Bull Moose" means a male moose one or more years old.
- "Calf Moose" means any moose born in 1983. "Cow Moose" means a female moose one or more years old.
- Successful Applicants for a special moose licence are not eligible to purchase a regular moose licence.
- The antlers of bull moose and the lower jaw of calf moose must accompany the carcass.

Guided Moose
(Canadian Residents and Non-residents)

Zones 26 and 27, including Pasquia Wildlife Management Unit

Oct. 3 - Oct. 22
Nov. 7 - Nov. 26

one bull or one 1983 calf moose

Zone 33

Sept. 12 - Sept. 24
Oct. 3 - Oct. 8
Nov. 7 - Nov. 26

one bull or one 1983 calf moose

Zones 34, 35, 36 and 37, including Lac La Ronge Provincial Park

Sept. 12 - Sept. 24
Oct. 3 - Oct. 15
Nov. 7 - Dec. 3

one bull or one 1983 calf moose

- The antlers of bull moose and the lower jaw of calf moose must accompany the carcass.
- Services of a registered guide must be used. 400 Guided Moose Licences are available. (Quotas in brackets) 26(55), 27(135), 33(10), 34(10), 35(20), 36(130), 37(40).

Woodland Caribou
(Sask. Residents, Canadian Residents and Non-residents)



Zones 24, 25, 27, 28, 29, 31 and 33, including Pasquia Wildlife Management Unit, and Nipewin Provincial Park

Nov. 21 - Dec. 3

One woodland caribou, either sex

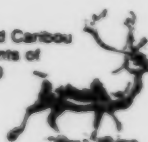
Zones 34 to 36, including Lac La Ronge Provincial Park

Sept. 12 - Sept. 24
Oct. 3 - Oct. 15
Oct. 31 - Nov. 26

one woodland caribou, either sex

- Canadian residents and Non-residents must use the services of a registered guide when hunting caribou.

Barran-Ground Caribou
(Sask. Residents of Zone 37 Only)



Zone 37

Nov. 1 - Feb. 25, 1984

two barran-ground caribou, either sex; separate licences required

- Residents of Zone 37 means Sask. Residents living in Zone 37 during the past three months.

Bear
(Sask. Residents, Canadian Residents and Non-residents)



Zone 23 to 25, 26 to 37, including Pasquia and Porcupine Wildlife Management Units, and Bronson Recreation Site

Aug. 29 - Oct. 15

two bear, either sex; separate licences required

Zones 26, 27

Aug. 29 - Oct. 22

two bear, either sex; separate licences required

Lac La Ronge, Meadow Lake and Nipewin Provincial Parks, and Zones 18, 20, 21 and 22, including Duck Mountain Provincial Park

Sept. 7 - Oct. 15

two bear, either sex; separate licences required

Fort a la Crosse Wildlife Management Unit Only

Sept. 19 - Oct. 15

two bear, either sex; separate licences required

- Unused spring bear licences are valid in fall seasons.

Special Seasons (Saskatchewan Residents Only) By Application and Draw

Species	Game Management Zones Open	Season Dates (Inclusive)	Limit	General Information
Antelope (tentative)	Zones 1 to 6, 8, 12 and 14	Oct. 27 - Nov. 2	one antelope, either sex	- Antelope licence quotas will be set after July aerial surveys.
Antelope (archery, tentative)	Zones 1 to 6, 8, 12 and 14	Sept. 5 - Oct. 8	one antelope, either sex	- Antelope archery licences are valid in any open zone during the archery season only.
Special Elk	Zones 3 and 4 (combined), including West Block of Cypress Hills Provincial Park	Oct. 24 - Oct. 29	one elk, either sex	- Licence quotas (in brackets) for each zone: 3 and 4 combined(100), 16(200), 21(275), 23(300).
	Zone 18, including Moose Mountain Provincial Park	Oct. 31 - Nov. 5, or Nov. 7 - Nov. 12	one elk, either sex	
	That portion of Zone 21 north of Highway No. 3, including Fort a la Corne Wildlife Management Unit	Aug. 29 - Sept. 17, and Nov. 7 - Nov. 19	one elk, either sex	
	Zone 23, including Porcupine Wildlife Management Unit and Greenwater Provincial Park	Oct. 24 - Oct. 29	one elk, either sex	
	Zone 23 to 27 and 30, including Laif Lake, Pasqua and Porcupine Wildlife Management Units	Sept. 19 - Sept. 24, and Nov. 7 - Nov. 19	one moose, either sex	- Licence quotas (in brackets) for each zone: 18(100), 23(400), 24(400), 29(300), 26(200), 27(100), 30(100), 32(200), Fort a la Corne(100), Greenwater Lake Park(50).
Special Moose	Zone 32, including Bronson Recreation Site	Nov. 7 - Nov. 12	one moose, either sex	
	Zone 18, including Duck Mountain Provincial Park	Nov. 7 - Nov. 12	one moose, either sex	
	Greenwater Lake Provincial Park Only	Nov. 7 - Nov. 12	one moose, either sex	
	Fort a la Corne Wildlife Management Unit Only	Sept. 19 - Oct. 1, and Nov. 7 - Nov. 19	one moose, either sex	
	Zone 32, including Bronson Recreation Site	Sept. 19 - Oct. 1	one moose, either sex	- Archery moose licences valid only during the archery season Sept. 19 to Oct. 1. Quota (100).
Moose (archery)				
Mule Deer	Zones 1 to 4, 6, 8, 12, 13, 14 and 22, including Elbow Wildlife Management Unit	Nov. 7 - Nov. 12	one mule deer, either sex	- "NOTE: Zone 3 licences valid south of Highway No. 1 only. Zone 22 licences valid only in the southwest corner of the zone bounded by Highway Nos. 14, 21 and 40, excluding Manitou Island.
				- Licence quotas (in brackets) for each zone: 1(50), 2(1,100), 3(600), 4(400), 5(1,400), 6A(1,200), 6B(150), 6C(200), 8(250), 9(50), 12(200), 13(50), 14(50), 22(50).
				- 6B is the Bursall Sandhills complex west of Highway No. 21. 6C is the Cabri Sandhills complex along the South Saskatchewan River north of Cabri. WATCH FOR SIGNS. 6A is the remaining portion of Zone 6.
	Zones 5, 6A, including Saskatchewan Landing Park, 6B and 6C. NOTE: Muzzleloading firearms only in Saskatchewan Landing Park	Nov. 3 - Nov. 5, or Nov. 7 - Nov. 9	one mule deer, either sex	
	Zones 5, 6A, 6B, 6C, including Saskatchewan Land Park. NOTE: Muzzleloading firearms only in Saskatchewan Landing Park	Nov. 11 and 12	one antlerless mule deer	- "Antlerless Mule Deer" means a doe or a 1983 fawn. Licence quotas (in brackets) for each zone: 5(700), 6A(500), 6B(100), 6C(150).
Antlerless Mule Deer				
Mule Deer (archery)	Zone 1 to 4, 6A, 8, 9, 12 to 15 and 22, including Saskatchewan Landing Provincial Park	Sept. 5 - Oct. 8	one mule deer, either sex	- Licence quotas (in brackets) for each zone: 1 to 4, 6A, 8, 9, 12 to 15 and 22 combined (900), 5(150), 6B and 6C combined (50). Archery licences valid only in the archery season.
	Zones 5, 6B and 6C	Sept. 12 - Sept. 24	one mule deer, either sex	

Appendix 13. 1984 Saskatchewan Big Game Seasons

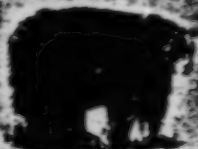


1984 Big Game Seasons

Species	Wildlife Management Zones Open	Season Dates (Inclusive)	Limit	General Information
White-tailed Deer Primitive Weapons, Sask. Residents Only	Zones 1 to 8, 11 to 36, 38 to 55, 62 to 66, and 70 to 76, including Elbow, Horseshoe Lake, and Fort à la Corne Wildlife Management Units, Nipawin & Lac La Ronge Provincial Parks	Archery Sept. 3 - Oct. 13 Muzzleloading Rifles Oct. 1 - Oct. 13	one white-tailed deer, either sex	- An unsuccessful and/or may purchase a first or second regular licence to hunt white-tailed deer by turning in unused archery licences at any designated office. - White-tailed deer archery licences are valid in the shotgun-archery-muzzleloader areas of Zones 20 and 30 during the Nov. 19 to Dec. 1 season.
	Zones 9 and 10	Archery Sept. 10 - Oct. 13 Muzzleloading Rifles Oct. 1 - Oct. 13	one white-tailed deer, either sex	
	Zone 27, including Duck Mountain Provincial Park	Archery Sept. 3 - Oct. 13 Muzzleloading Rifles Oct. 1 - Oct. 13	one antlered white-tailed deer	"Antlered White-tailed Deer" means any deer with an antler or antlers at least 10 centimetres in length as measured from the outside of the skull to the tip. - Muzzleloading rifle white-tailed deer licences are valid only in muzzleloading areas Oct. 1 to Oct. 13 except in the shotgun-archery-muzzleloader areas of Zones 20 and 30.
	Zones 56 to 61 and 67 to 69, including Meadow Lake and Greenwater Lake Provincial Parks, and Bronson Recreation	Archery Sept. 3 - Oct. 13 Muzzleloading Rifles Oct. 1 - Oct. 13	two white-tailed deer, either sex separate licences required	Second white-tailed deer licences are valid only in Zones 56 to 61 and 67 to 69.
White-tailed Deer (Sask. Residents, Canadian Residents and Non-residents)	Zones 62 to 66, including Nipawin Provincial Park	Nov. 19 - Dec. 1	one white-tailed deer, either sex	
	Zones 70 to 76, including Lac La Ronge Provincial Park	Nov. 5 - Dec. 1	one white-tailed deer, either sex	
	Zones 56 to 61, and 67 to 69, including Last Lake Wildlife Management Unit, Greenwater Lake and Meadow Lake Provincial Parks, and Bronson Recreation Site	Oct. 8 - Oct. 20 & Nov. 12 - Dec. 1	two white-tailed deer, either sex, separate licences required	Second white-tailed deer licences are valid only in Zones 56 to 61 and 67 to 69.
White-tailed Deer (Sask. Residents and Canadian Residents)	Zones 1 to 14, and 24 to 26	Sask. Residents Nov. 19 - Nov. 24 Canadian Residents Nov. 19 - Nov. 24	one white-tailed deer, either sex	Holders of unused first primitive weapons licences may hunt white-tailed deer in the shotgun-archery-muzzleloader areas of Zones 20 and 30 during the regular season.
	Zones 15 to 23, 27 to 36 and 38 to 55, including Brokenhead No. 1 and No. 2, Estevan-Cambria, Lomond No. 3 (at Mosaic), Elbow, Fort à la Corne, Horseshoe Lake and Last Mountain Lake Wildlife Management Units, and Mease Mountain Provincial Park	Sask. Residents Nov. 19 - Dec. 1 Canadian Residents Nov. 26 - Dec. 1	one white-tailed deer, either sex	Please refer to enclosed map for the portion of Management Zones 20 and 30 restricted to shotgun, archery, and muzzleloading rifle hunting only.
	Zone 37, including Duck Mountain Provincial Park	Sask. Residents Nov. 19 - Dec. 1 Canadian Residents Nov. 26 - Dec. 1	one antlered white-tailed deer	"Antlered White-tailed Deer" means any deer with an antler or antlers at least 10 centimetres in length as measured from the outside of the skull to the tip. "Roads and Trails Only". Hunting in Zones 15 to 17, 20 and 26 to 34 must keep vehicles on roads and trail allowances with trails.
	Zones 31 and 32	Sask. Residents Dec. 3 - Dec. 8	one antlerless white-tailed deer	"Antlerless white-tailed deer" means a doe or a 1984 fawn.
White-tailed Deer with Guided Licence	Zones 60 and 61	Persons holding valid deer licences and possessing guided season licences, Oct. 1 - Oct. 29 & Nov. 5 - Nov. 17	two white-tailed deer, either sex separate licences required	
	Zone 69	Persons holding valid deer licences and possessing guided season licences Sept. 10 - Sept. 22 Oct. 1 - Oct. 6 & Nov. 5 - Nov. 17	two white-tailed deer, either sex separate licences required	

Big Game



		Persons holding valid deer licences and possessing guided moose licences. Oct. 1 - Oct. 30 & Nov. 5 - Nov. 17	one antlered deer, either sex		
		Persons holding valid deer licences and possessing guided moose licences. Sept. 10 - Sept. 27 Oct. 1 - Oct. 13 & Nov. 5 - Nov. 17	one antlered deer, either sex		
Regular Elk (Elk, Residents Only)		Zones 45, 46, 50 (North of Highway 95, 56 to 64, 66 and 68, including Hespeler Provincial Park, and the northeast portion of Meadow Lake Provincial Park north of 17th base line). Zone 53, including Cookson Wildlife Management Unit	Sept. 17 - Sept. 28 & Dec. 3 to Dec. 8 Nov. 5 - Dec. 15	one antlered elk one elk, either sex	- "Antlered Elk" means any elk having an antler or antlers at least 15 centimeters in length as measured on the outside curve of the antler from the skull to the tip. Watch for signs in Meadow Lake Provincial Park. - Note: Hunters will be restricted to designated trails within the Cookson Wildlife Management Unit.
Regular Moose (Moose, Residents)		Zones 45, 46, 50, 56 to 67 and 69, including Lac La Poudre Wildlife Management Unit and Hespeler Provincial Park	Oct. 8 - Oct. 13	one bull or one 1984 calf moose	- "Bull Moose" means a male moose one or more years old. "Calf Moose" means any moose born in 1984. "Cow Moose" means a female moose one or more years old.
Early Moose		Zones 70 to 76, including Lac La Poudre Provincial Park	Sept. 3 - Sept. 22	one bull or one 1984 calf moose	- Successful applicants for a special moose licence are not eligible to purchase a regular moose licence.
Late Moose		Zones 45, 46 and 50 to 55, including Lac La Poudre Wildlife Management Unit.	Nov. 18 - Dec. 1	one bull or one 1984 calf moose	- The antlers of bull moose and the lower jaw of calf moose must accompany the carcass.
		Zones 60, 61 and 62 to 65, including Hespeler Provincial Park and Brandon Recreation Site	Nov. 18 - Nov. 24	one bull or one 1984 calf moose	
Guided Moose (Canadian Residents and Non-residents)		Zones 70 to 76, including Lac La Poudre Provincial Park	Nov. 5 - Dec. 1	one bull or one 1984 calf moose	
		Zones 60, 61 and 62	Oct. 1 - Oct. 20 & Nov. 5 - Nov. 24	one bull or one 1984 calf moose	- The antlers of bull moose and the lower jaw of calf moose must accompany the carcass.
		Zone 58	Sept. 10 - Sept. 22 Oct. 1 - Oct. 6 & Nov. 5 - Nov. 24	one bull or one 1984 calf moose	- Services of a registered guide must be used.
Woodland Caribou (Elk, Residents, Canadian Residents and Non-residents)		Zones 70 to 76, including Lac La Poudre Provincial Park	Sept. 10 - Sept. 22 Oct. 1 - Oct. 13 & Nov. 5 - Dec. 1	one bull or one 1984 calf moose	- 400 Guided Moose Licences are available. Quotas (in brackets) for each zone: 60603, 61115, 62115, 62115, 70110, 7145, 7245, 73110, 7445, 75110, 76303
					- Canadian residents and Non-residents must use the services of a registered guide when hunting caribou.
Woodland Caribou (Elk, Residents, Canadian Residents and Non-residents)		Zones 55, 56 and 61 to 65, including Hespeler Provincial Park	Nov. 18 - Dec. 1	one woodland caribou, either sex	
Barren-ground Caribou (Elk, Residents of Zone 76 only)		Zones 70 to 76, including Lac La Poudre Provincial Park	Sept. 10 - Sept. 22 Oct. 1 - Oct. 13 & Nov. 5 - Dec. 8	one woodland caribou, either sex	
		Zone 76	Nov. 1 - Mar. 2 1985	two barren-ground caribou, either sex; separate licences required	- Residents of Zones 76 means Saskatchewan residents living in Zone 76 during the past three months.
Bear (Elk, Residents, Canadian Residents and Non-residents)		Zones 42, 43 and 48 to 76, including Horseshoe Lake and Lac La Poudre Wildlife Management Units, and Brandon Recreation Site	Aug. 27 - Oct. 30	two bear, either sex; separate licences required	- Unused spring bear licences are valid in fall seasons.
Bear (Elk, Residents, Canadian Residents and Non-residents)		Lac La Poudre, Meadow Lake, Hespeler, Bush Mountain Provincial Parks	Sept. 5 - Oct. 30	two bear, either sex; separate licences required	
		Part of a Lac La Poudre Wildlife Management Unit only	Sept. 24 - Oct. 30	two bear, either sex; separate licences required	

Note: A person hunting in zones 55 to 61 during an August, September or October big game season may obtain two free bear seals with each valid big game licence. One bear seal can be taken per seal while hunting under the big game licence for which the bear seals were issued. Once the original big game licence has been filed any unused free bear seals are no longer valid for hunting.

- Zones 55 to 61 free bear seals are available at department offices only.

Big Game



1984 Special Big Game Seasons

Saskatchewan Residents Only by Application and Draw

Species	Wildlife Management Zones Open	Season Dates (Inclusive)	Limit	General Information
Antelope (Antelope)	Zones 1 to 14, and 24 to 28	Oct. 29 - Nov. 3	one antelope, either sex	- Antelope licence quotas will be set after July aerial surveys
Antelope (Archery Antelope)	Zones 1 to 14, and 24 to 28	Sept. 3 - Oct. 8	one antelope, either sex	- Antelope archery licences are valid in any open zones during the archery season only
	Special Elk Zones 6 and 7 combined, including Cypress Hills Provincial Park (West Block)	Oct. 22 - Oct. 27	one elk, either sex	- Licence quotas (in brackets) for each zone: 6 and 7 combined (100), 33(100), 50(275), 48, 49, 56 and 57 combined (300)
	Zone 33, including Moose Mountain Provincial Park	Oct. 29 - Nov. 3	one elk, either sex	
	That portion of Zone 50 south of Highway No. 95 including Fort à la Corne Wildlife Management Unit	Sept. 3 - Sept. 22 & Nov. 5 - Nov. 17	one elk, either sex	
	Zones 48, 49, 56 and 57 combined including Greenwater Lake Provincial Park	Oct. 22 - Oct. 27	one elk, either sex	
	Zones 48, 49 and 56 combined, 57 to 62 and 67, including Last Lake Wildlife Management Unit	Sept. 17 - Sept. 22 & Nov. 5 - Nov. 17	one moose, either sex	
	Zone 55 and 66 combined, including Bronson Recreation Site	Nov. 5 - Nov. 17	one moose, either sex	- Licence quotas (in brackets) for each zone: 37(100), 50(100), 48, 49 and 56 combined (300), 57(100), 58(200), 59(400), 60(200), 61(100), 62(50), 67(150), 55 and 66 combined (150), Greenwater Lake Provincial Park (50)
	Zone 37, including Duck Mountain Provincial Park	Nov. 5 - Nov. 10	one moose, either sex	
	Greenwater Lake Provincial Park Only	Nov. 5 - Nov. 10	one moose, either sex	
	Zone 50 including Fort à la Corne Wildlife Management Unit	Sept. 17 - Sept. 29 & Nov. 5 - Nov. 17	one moose, either sex	
	Zones 55 and 66 combined, including Bronson Recreation Site	Sept. 17 - Sept. 29	one moose, either sex	
Moose (Archery)				- Archery moose licences valid only during the archery season, Sept. 17 to Sept. 29, quota (100)
	Mule Deer Zones 1, 3 to 8, 19, 23 to 27, 29, 30 and 45, including Elbow Wildlife Management Unit and Cypress Hills Provincial Park (West Block)	Nov. 5 - Nov. 10	one mule deer, either sex	- Licence quotas (in brackets) for each zone: 1(100), 2(500), 3(300), 4(100), 5(300), 6(400), 7(300), 8(50), 9(400), 10(700), 12(150), 13(400), 14(800), 15(150), 23(300), 24(200), 25(50), 26(50), 27(50), 28(100), 30(100), 45(50), 46(100)
	Zone 46	Nov. 12 - Nov. 17	one mule deer, either sex	
	Zones 2, 9, 10, 12, 13 and 14 including Saskatchewan Landing Provincial Park Note: Muzzleloading firearms only in Saskatchewan Landing Provincial Park	Nov. 1 - Nov. 3 or Nov. 5 - Nov. 7	one mule deer, either sex	
	Zones 2, 9 and 11 to 14, including Saskatchewan Landing Provincial Park Note: Muzzleloading firearms only in Saskatchewan Landing Provincial Park	Nov. 9 and 10 or Nov. 12 and 13	one antlerless mule deer	
	Zone 10	Nov. 9 and 10, Nov. 12 and 13, or Nov. 15 and 16	one antlerless mule deer	
Antlerless Mule Deer	Zones 5 and 6	Nov. 12 and 13	one antlerless mule deer	- "Antlerless Mule Deer" means a doe or a 1984 fawn
	Zones 1 to 8, 13, 14, 19, 23 to 27, 29, 30, 45 and 46, including Saskatchewan Landing and Cypress Hills (West Block) Provincial Parks	Sept. 3 - Oct. 8	one mule deer, either sex	- Licence quotas (in brackets) for each zone: 1 to 8, 13, 14, 19, 23 to 27, 29, 30, 45 and 46 combined (600), 9 and 10 combined (150), 12(50)
	Zones 9, 10 and 12	Sept. 10 - Sept. 22	one mule deer, either sex	
Mule Deer (Archery)				- Archery licences valid only in archery season

Appendix 14. 1983 Saskatchewan Big Game Draw Procedures



Saskatchewan
Tourism and
Renewable
Resources

1983 Saskatchewan Big Game Draw Information Sheet (Residents of Saskatchewan Only)

1. Only Saskatchewan residents may apply for Big Game Draw licenses. Applications from persons age 15 or younger will not be accepted. Applications will only be accepted on 1983 application envelopes.
2. Persons 16 or 17 years of age and all first time hunters must hold a Firearm or Hunter Safety certificate before applying.
3. Deadline: Applications must be received at the D.P.R.R. office, 3211 Albert Street, Regina, no later than 5:00 p.m. C.S.T., July 7, 1983 to be eligible. Post Office date stamps are not acceptable.
4. No person shall submit an application if their hunting rights are still restricted for either a Wildlife Act conviction or a firearm accident as of July 7, 1983.
5. Each applicant must list their full registration and beneficiary number from their 1983 Saskatchewan Health Services Card. Do not use Health Region, M.S.I., or G.M.S. card numbers. Print your registration number first, followed by your individual beneficiary number in this manner 123456-00 (see sample S.H.S. Card). Permanent members of the Armed Forces and R.C.M.P. use regimental number and "X" appropriate box on application.

123456		01 01 83 31 12 83	
00	Each person on this card has a separate beneficiary number. Use your own beneficiary number (adjacent to your name) following your registration number on your application.		
01			
02			
03			
SAMPLE ONLY			

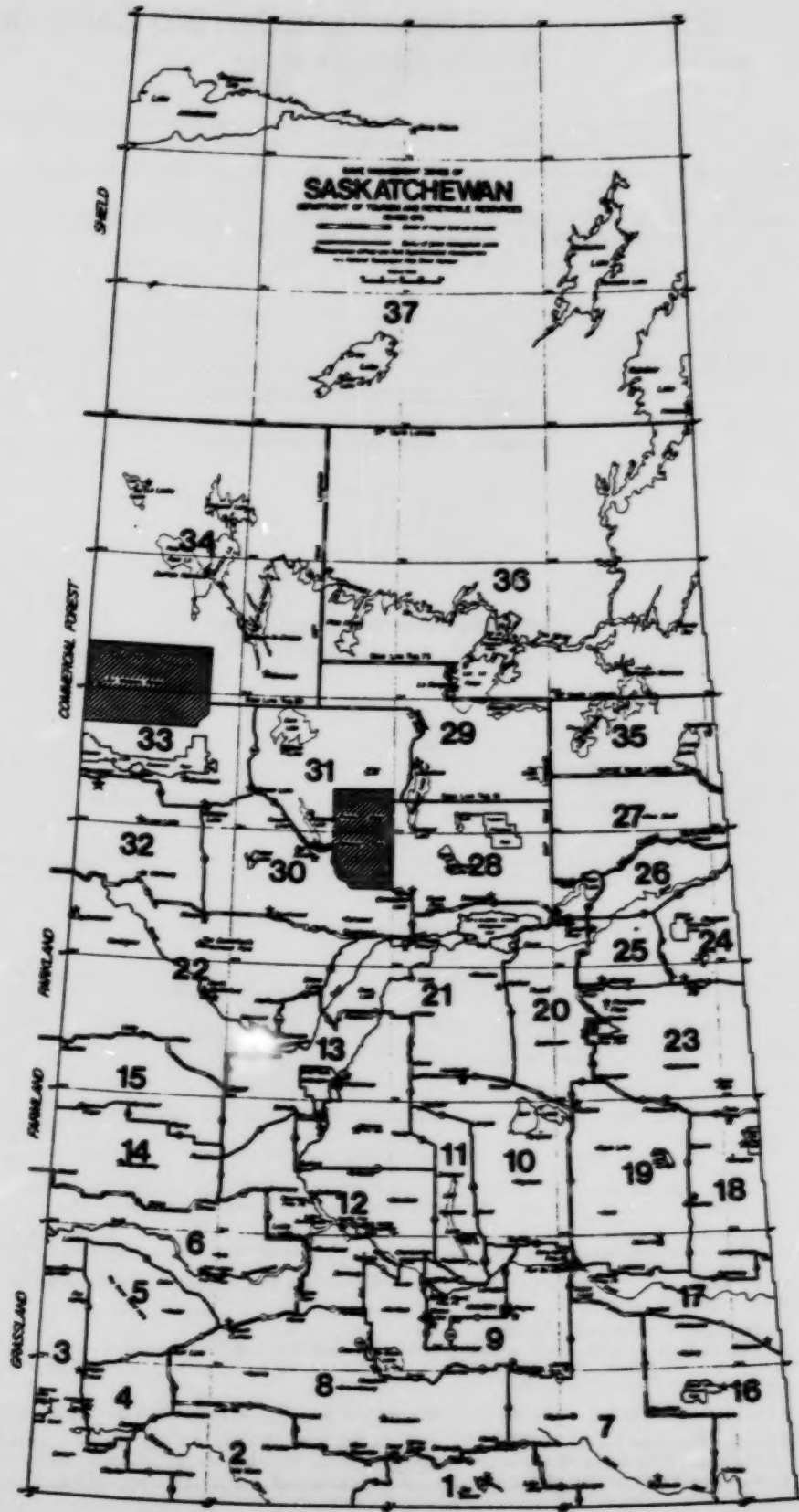
6. Complete your application form using your name exactly as it appears on your S.H.S. Card. Be sure to complete both sides of the application.
7. Applications will be rejected for any of the following reasons:
 - no licence fees, incorrect fees or unsigned cheques;
 - containing false or incomplete information;
 - containing special instructions;
 - containing ineligible names;
 - having a person's name appear on more than one application envelope for a particular species.

Note: Supplying false or misleading information is a violation of The Wildlife Act.
8. A person may apply only once for each species. Elk, Moose, Mule Deer or Antelope (either archery or regular - not both). Please print the species in the appropriate box on the application form. A separate application is required for each species.
9. Each application must be signed by one of the applicants. This person is responsible for the validity of the information provided.
10. Successful applicants for a Special Elk Licence are not eligible to purchase a Regular Elk Licence. Successful applicants for a Special Moose Licence are not eligible to purchase a Regular Moose Licence.
11. Licence fee: \$30.00 for each applicant - same fee for all species. Licence fee must be included with the application. Send a cheque or money order (no cash) payable to Saskatchewan Parks and Renewable Resources. From 1 to 4 persons may apply on one application envelope.
12. Priority Pools: The following priority pools apply to all species and seasons:
 - "Super A" - applications listing applicants who qualified for "A" Pool in 1982 but were not drawn for that species (1st priority) (see page 4 for details);
 - "A" - applications listing persons who did not have a licence for a particular species in 1981 and 1982 (2nd priority);
 - "B" - applications listing persons who obtained a licence (either archery or regular) in 1981 (3rd priority);
 - "C" - applications listing persons who had a licence (either archery or regular) in 1982 (4th priority);

Please note: Applications will receive the lowest priority of any applicant on the application. For example, if you apply on the same application with a person who was drawn for that species in 1981, your application will go into Pool "B".
13. Zone preference: You may select up to four management zones. List them in order of preference in boxes 1 to 4 by writing in the zone numbers.
14. Split Seasons: No choice will be available between the separate parts of the Elk season in Zone 16 (Moose Mountain Provincial Park) or the either-sex Mule Deer seasons in Zones 5 and 6. Those applicants drawn first will hunt in the earliest season. The remainder of successful applicants will be assigned the second season.
 - *** If you are not willing to hunt in either part of the split seasons, apply only for zones where split seasons do not occur.
15. Antlerless Mule Deer Season: Those persons wanting to hunt in the antlerless Mule Deer season in Zones 5 and 6, if unsuccessful in the regular Mule Deer draw, should place an "X" in the box marked "antlerless", otherwise leave blank (see page 4 for details).



New for 1983



16. Archery Seasons: Place an "X" in the box marked "archery" if you are applying for the Antelope, Mule Deer or Moose Archery seasons - otherwise leave blank.

Note: Mule Deer applicants must list their zone preference on the application. Archery licenses are valid only during the archery season.

17. Should you require additional information, please contact your nearest Saskatchewan Parks and Renewable Resources office.

Season Dates (Inclusive) and Tentative Licence Quotas (In Brackets)

Special Elk Season (Either Sex)	Aug. 29-Sept. 17 &		
	Nov. 7-Nov. 19	Zone 21, Fort a la Come Wildlife Management Unit Only	(275)
	Oct. 31-Nov. 5	Zone 16, including Moose Mountain Provincial Park	(100)
	Nov. 7-Nov. 12	Zone 16, including Moose Mountain Provincial Park	(100)
	Oct. 24-Oct. 29	Zone 23, including Greenwater Lake Provincial Park	(300)
	Oct. 24-Oct. 29	Zone 3 and 4 combined, including Cypress Hills Provincial Park, West Block	(100)
*Note: - Designate Zone 3 for the combined Zones 3 and 4 season. License will be valid in both zones.			

Special Moose Season (Either Sex)	Sept. 19-Sept. 24 &	Zones 23 to 27 and 30, including Pasquia, Leaf Lake, and Porcupine Wildlife Management Units	
	Nov. 7-Nov. 19	Zone 32, including Bronson Recreation Site	
	Nov. 7-Nov. 12	Zone 18, including Duck Mountain Provincial Park	
	Sept. 19-Oct. 1 &		
	Nov. 7-Nov. 19	Zone 21, Fort a la Come Wildlife Management Unit Only	
	Nov. 7-Nov. 12	*Greenwater Lake Provincial Park Only (Zone 23G)	
Note: - Designate (23G) for Greenwater Lake Provincial Park in the zone preference box on the application form.			

Moose Quotas

Zone 18 - (100)	Zone 26 - (200)	Zone 21, Fort a la Come Wildlife Management Unit Only	-(100)
Zone 23 - (400)	Zone 27 - (100)	Zone 23G, Greenwater Lake Provincial Park Only	-(50)
Zone 24 - (400)	Zone 30 - (100)		
Zone 25 - (300)	Zone 32 - (200)		

Mule Deer Season (Either Sex)	Nov. 3-Nov. 5	Zone 5(700), Zone 6A(600), Zone 6B(75), Zone 6C(100)	
	Nov. 7-Nov. 9	Zone 5(700), Zone 6A(600), Zone 6B(75), Zone 6C(100)	
Note: - Zone 6 is subdivided into 3 separate zones - for details see page 4. You must designate in which portion of Zone 6 you prefer to hunt. Applications showing only Zone 6 will be deemed to mean Zone 6A.			

Nov. 7-Nov. 12	Zones 1 to 4, 8, 9, 12, 13, 14, and 22, including Elbow Wildlife Management Unit		
----------------	--	--	--

- *Note: - Zone 3 Mule Deer licences are valid only for that portion of Zone 3 south of Highway No. 1;
- Zone 6A Mule Deer hunters can hunt in Saskatchewan Landing Provincial Park with muzzleloading rifles only;
- Zone 22 Mule Deer licences are valid only in the southwest corner of the zone - see page 4 for details

Mule Deer Quotas

Zone 1 - (50)	Zone 6A - (1200)	Zone 12 - (200)
Zone 2 - (1100)	Zone 6B - (150)	Zone 13 - (50)
Zone 3 - (800)	Zone 6C - (200)	Zone 14 - (50)
Zone 4 - (400)	Zone 8 - (250)	Zone 22 - (50)
Zone 5 - (1400)	Zone 9 - (50)	

Antlerless Mule Deer Season (Antlerless Animals Only)	Nov. 11 and Nov. 12	Zones 5, 6A, 6B, 6C	
*Note: - You must designate in which portion of Zone 6 you prefer to hunt; - Zone 6A Mule Deer hunters can hunt in Saskatchewan Landing Provincial Park with muzzleloading rifles only; - See page 4 for details.			
Antlerless Mule Deer Quotas			
Zone 5 - (700)	Zone 6A - (500)	Zone 6B - (100)	Zone 6C - (150)

Antelope Season (Either Sex)	Oct. 27-Nov. 2	Zones 1 to 6, 8, 12 and 14 Antelope quotas will be set after July surveys have been completed. If an Antelope season is held, licences will be issued on a zone basis. List zone preference on application.	
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Archery Seasons (Bow and Arrows Only)	Mule Deer (Either Sex).		
	Sept. 5-Oct. 8	Zones 1 to 4, 6A, 8, 9, 12 to 15, and 22 (600 licences valid in any of these zones)	
	Sept. 12-Sept. 24	Zone 5(150), 6B and 6C combined (50)	
	Antelope (Either Sex)		
	Sept. 5-Oct. 8	Zones 1 to 6, 8, 12 and 14 (300 licences valid in any of these zones)	
Moose (Either Sex)			
	Sept. 19-Oct. 1	Zone 32(100) including Bronson Recreation Site	

Results of the big game draw should be available by August 15, 1983. Call 1-800-667-3687 toll free from any point in Saskatchewan (Monday through Friday 9:00 a.m. to 5:00 p.m.)

Mule Deer - Zone 6

To improve mule deer management by spreading out the harvest, Zone 6 has been divided into three separate mule deer hunting areas (see map below).

Zone 6A: is that portion of Zone 6 excluding mule deer management Zones 6B and 6C.

Zone 6B: is the Sunset and hills area of Zone 6 lying west of Highway #21 and south of Township 22.

Zone 6C: is the Cabin and hills area of Zone 6 bounded by the south bank of the South Saskatchewan River, the south boundary of Township 21, and the west boundary of Range 20.



Mule Deer - Zone 22

Mule deer have expanded their range in the province. A sustainable population now exists in the southwest corner of Zone 22. Fifty mule deer licences will be available in the Minto Lake area bounded as follows:

By provincial Highways #40, #21 and #14 and the Albert-Saskatchewan border.



"Super A" Pool

The number of "A" Pool applicants for each species in the Big Game Draw always exceeds the licence quota. This means that some "A" Pool applicants have failed to receive a licence for several years in a row. The new "Super A" Pool gives first chance to those 1983 applicants who qualified in the 1982 "A" Pool for a certain species but were not drawn.

Mule Deer, Antelope and special season Moose hunters will benefit most from the new "Super A" Pool. Between 50 and 65 percent of "A" Pool applicants are drawn for these species each year. The remainder will qualify for the "Super A" Pool the following year. Except in popular management zones with small licence quotas, hunters in the "Super A" Pool will seldom fail to draw a licence for Mule Deer, Antelope or Moose.

Since only about 10 percent of "A" Pool applicants are drawn for Elk each season, the "Super A" Pool will not greatly improve the chances of receiving an Elk licence. Because there was no elk season in Zones 3 & 4 (combined) last year, anyone who (1) chose Zone 3 & 4 as their first preference and was not drawn from "A" Pool for elk in 1981, and (2) did not hold a special elk licence last year, will be added to the "Super A" Pool for elk in 1983, if they correctly apply.

Antlerless Mule Deer Season

The Mule Deer herd in management zones 5 and 6 has grown dramatically in recent years. Besides allowing a higher sport hunting harvest, this increase has resulted in more haystack and crop damage, concentrations of deer around ranches and farms, and over-aged does. Because most of the animals killed in the regular Mule Deer season are bucks, raising the licence quota has not slowed population growth. The removal of excess does and fawns in 1983 will help balance Zone 5 and 6 Mule Deer populations with their habitat.

How It Works

Persons who apply to hunt in management zones 5, 6A, 6B, or 6C, and are not drawn for an either-sex Mule Deer licence, will be eligible for the antlerless draw if they mark the "antlerless" box on the application envelope.

Antlerless Mule Deer licences will be issued on a priority pool basis, but getting drawn will not affect your position in the 1984 regular Mule Deer draw. For example, if you are a "B" Pool applicant who does not draw a 1983 regular Mule Deer licence, but applies for and receives an antlerless licence, you will still advance to the "A" Pool for regular Mule Deer in 1984.

CORRECTION NOTICE:

The information telephone number for the BIG GAME DRAW RESULTS will be 586-9071 (NOT 1-800-667-3667 as indicated on page 2).

COLLECT CALLS WILL NOT BE ACCEPTED.

Archery ☐

Antlerless (mule deer) ☐

Species

(For Office Use Only)

- 1983 Big Game Draw Application
- Complete, in detail, the S.H.S.C. registration and beneficiary numbers.
 - Print only.
 - Licence fee \$30.00 for each applicant.
 - Please fill in return address on reverse side.
 - Applications with incomplete or incorrect information will be rejected.

1	2	3	4
Sumname First Name and Initial Age Postal Code Registration No. SHSC ☐ CAF ☐ RCAP ☐	Sumname First Name and Initial Age Postal Code Registration No. SHSC ☐ CAF ☐ RCAP ☐	Sumname First Name and Initial Age Postal Code Registration No. SHSC ☐ CAF ☐ RCAP ☐	Sumname First Name and Initial Age Postal Code Registration No. SHSC ☐ CAF ☐ RCAP ☐

One Applicant Must Sign Below

Zone Preference

1st ☐ 2nd ☐ 3rd ☐ 4th ☐

I, the undersigned, hereby certify all applicants are eligible and comply with the Firearms Safety Regulations. No false or misleading information is contained hereon.

Telephone No.

Signature



A message from the director of wildlife

Fellow Sportsman:

A selection of big game hunters throughout Saskatchewan have received this questionnaire. Why is it worth your effort to fill it out?

When combined with other reports of hunting activity, the survey results indicate hunting pressure and the sport hunter kill in each game management zone. It's important for wildlife managers to know these things. Without the information that hunters supply, making correct decisions about season dates and licence quotas would be virtually impossible. Continued hunting enjoyment and wildlife conservation depends on your involvement!

You may say, "Fine, but why do I seem to get one of these things every year?"

Because hunting success and big game populations can change a lot from year to year, the Big Game Hunter Survey is done annually. Not only can extreme weather influence big game winter survival and reproduction — it and other factors can alter hunting activity and the big game harvest. Responsible game management requires up-to-date information.

Secondly, the recipients of the survey are randomly selected by a computer. This selection is based on last year's licence sales and this year's Big Game Draw. Because many hunters fail to return this form, about one-third of all big game hunters must be sent a questionnaire. Therefore it is possible, but not very probable, to be surveyed two or more years in a row.

Please complete this survey form and return it in the enclosed postage-paid envelope when you have finished hunting this year. If you don't buy a big game licence this fall, or don't bag an animal, please return the questionnaire anyway. All information is essential to a good survey.

We realize that you may be interested in the information collected last year. A summary is provided on the last page of this form.

Your help in filling out the Big Game Hunter Survey is greatly appreciated. By doing so, you will be contributing to better wildlife management in Saskatchewan.

Yours in good faith,



Ross MacLennan,
Director,
Wildlife Branch

1983 Big Game Hunter Survey

1. If you did not purchase a 1983 Saskatchewan Big Game Licence Please Check ☒ Here ☐ and return immediately, Thank You.
2. If you did purchase a 1983 Saskatchewan Big Game Licence please fill out the following questionnaire, and return it upon the completion of your hunting.
3. Check ☒ each Saskatchewan Big Game Licence you purchased and each Big Game species you hunted in Saskatchewan in 1983

	Antelope	Moose	Mule Deer	1st Bear	2nd Bear	Elk	1st White-Tailed Deer	2nd White-Tailed Deer	Woodland Caribou
Licence Purchased	☐	☐	☐	☐	☐	☐	☐	☐	☐
Species Hunted	☐	☐	☐	☐	☐	☐	☐	☐	☐

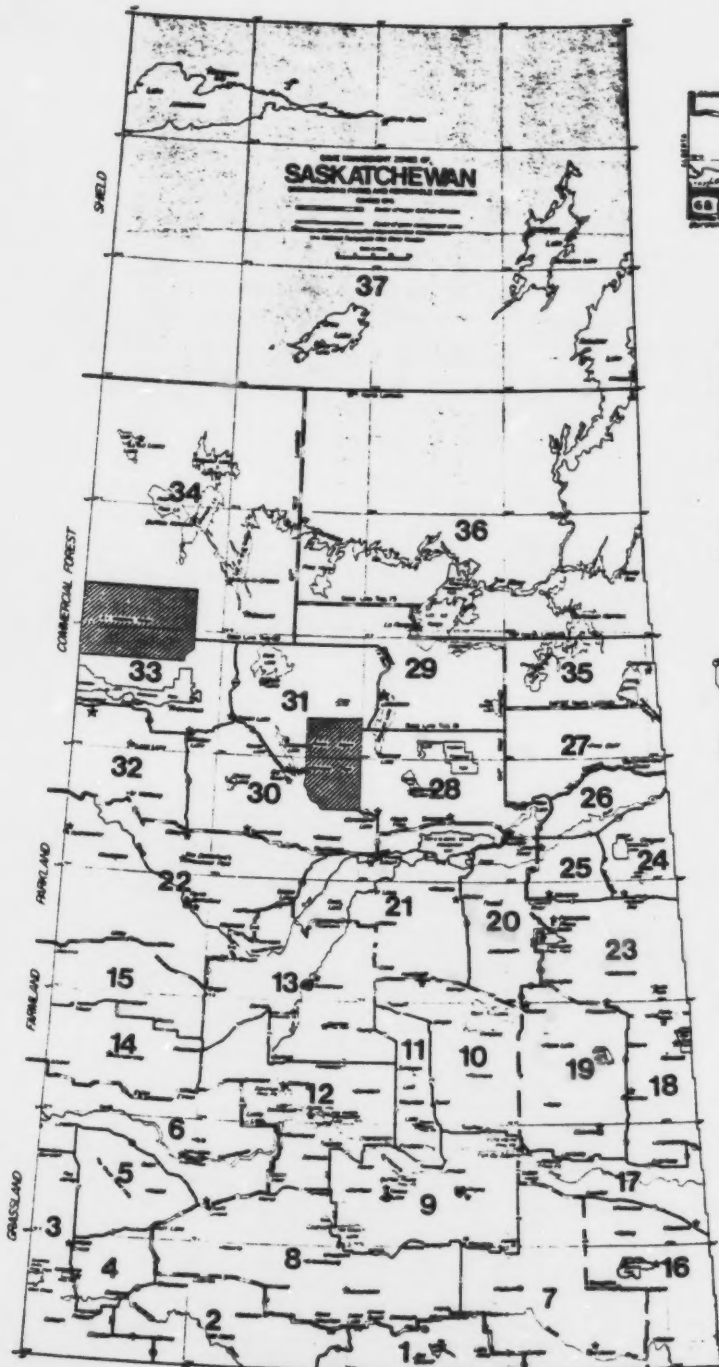
4. Check ☒ If licence obtained through the draw Moose ☐ Elk ☐
5. Archery Hunters please indicate your archery hunting effort with an (*) instead of a ☒ in time spent column.
6. Please record all your hunting activities, whether or not you bagged an animal.
 - Use a separate line for each day hunted; If you hunted in more than one zone in a day, use a separate line for each zone.
 - Use the following guide for recording hunting time
 (4 or more hours = 1 day less than 4 hours = 1/2 day)

Species	Dates		GM Zone No.	Time Hunted (Check ✓)		Kill Information	Species	Dates		GM Zone No.	Time Hunted (Check ✓)		Kill Information																				
	Month	Day		1 Day	1/2 Day			Month	Day		1 Day	1/2 Day																					
(A) White-Tailed Deer 1st Licence						Zone Number _____ Date of Kill _____ Month _____ Day _____ Animal was (check ✓) (below) ☐ 1 Buck ☐ 3 Kid ☐ 2 Doe ☐ 3 Fawn	(D) Antelope						Zone Number _____ Date of Kill _____ Month _____ Day _____ Animal was (check ✓) (below) ☐ 1 Buck ☐ 3 Kid ☐ 2 Doe																				
	(B) White-Tailed Deer 2nd Licence								Zone Number _____ Date of Kill _____ Month _____ Day _____ Animal was (check ✓) (below) ☐ 1 Buck ☐ 3 Fawn ☐ 2 Doe	(E) Mule Deer							Zone Number _____ Date of Kill _____ Month _____ Day _____ Animal was (check ✓) (below) ☐ 1 Buck ☐ 3 Fawn ☐ 2 Doe																
		(C) Moose										Zone Number _____ Date of Kill _____ Month _____ Day _____ Animal was (check ✓) (below) ☐ 1 Buck ☐ 3 Fawn ☐ 2 Doe		(F) Elk							Zone Number _____ Date of Kill _____ Month _____ Day _____ Animal was (check ✓) (below) ☐ 1 Buck ☐ 3 Fawn ☐ 2 Doe												
																Zone Number _____ Date of Kill _____ Month _____ Day _____ Animal was (check ✓) (below) ☐ 1 Buck ☐ 3 Fawn ☐ 2 Doe		(G) Bear 1st Licence							Zone Number _____ Date of Kill _____ Month _____ Day _____ Animal was (check ✓) (below) ☐ 1 Buck ☐ 3 Fawn ☐ 2 Doe								
																				Zone Number _____ Date of Kill _____ Month _____ Day _____ Animal was (check ✓) (below) ☐ 1 Buck ☐ 3 Fawn ☐ 2 Doe		(H) Bear 2nd Licence							Zone Number _____ Date of Kill _____ Month _____ Day _____ Animal was (check ✓) (below) ☐ 1 Buck ☐ 3 Fawn ☐ 2 Doe				
																								Zone Number _____ Date of Kill _____ Month _____ Day _____ Animal was (check ✓) (below) ☐ 1 Buck ☐ 3 Fawn ☐ 2 Doe		(I) Woodland Caribou							Zone Number _____ Date of Kill _____ Month _____ Day _____ Animal was (check ✓) (below) ☐ 1 Buck ☐ 3 Fawn ☐ 2 Doe

Please tear off this section before mailing back the questionnaire in the enclosed, postage-paid envelope.

APRIL							MAY							JUNE						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	10	11	12	13	14
15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				
22	23	24	25	26	27	28	29	30	31											

AUGUST							SEPTEMBER							OCTOBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
1	2	3	4	5	6	7	1	2	3	4	5	6	7	8	9	10	11	12	13	14
15	16	17	18	19	20	21	15	16	17	18	19	20	21	22	23	24	25	26	27	28
29	30	31					22	23	24	25	26	27	28	29	30	31				



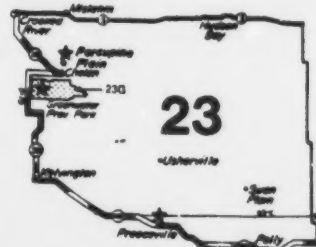
Mule Deer Management areas only

Zone 6 has been divided into three Mule Deer hunting areas. If you hunted mule deer in any of these areas please indicate.

Zone 6A — Portion of Zone 6 which excludes 6B and 6C

Zone 6B — Burstall sandhills area

Zone 6C — Cabri sandhills area



Greenwater Provincial Park

If you hunted Moose in Greenwater Provincial Park, please indicate by marking zone as 23G.

Legend

- Shield ☐
- Commercial Forest ☐
- Parkland ☐
- Farmland ☐
- Grassland ☐

1982 Hunter Statistics

White-tailed deer:

Licence sales	84,957	Hunter-days of Recreation	189,630
Harvest	36,216	Hunter success	56 percent

Licence sales, hunter harvest, and hunter-days declined in 1982 due to shorter seasons and lower deer populations following the severe 1981-82 winter.

Moose: (Regular and Special seasons combined)

Licence sales	12,527	Hunter-days of Recreation	47,146
Harvest	2,637	Hunter success	21 percent

The 1982 moose harvest increased about 15% from the low 1981 harvest. More suitable weather during the hunting season was important in this increase as the total number of hunters declined 5%. Cows comprised only 25% of the total harvest; calves and bulls made up 24% and 51% respectively.

Elk: (Antlered season)

Licence sales	3,020	Hunter-days of Recreation	5,514
Harvest	167	Hunter success	8 percent

The demand for antlered elk hunting continues to increase with licence sales 85 percent higher in the past 7 years. Poor weather during the hunting season resulted in a reduced harvest in 1982.

Mule deer:

Licence sales	4,870	Hunter-days of Recreation	7,438
Harvest	4,079	Hunter success	84 percent

Healthy mule deer populations continue to exist throughout southwestern Saskatchewan. The licence quota has increased from 3,000 in 1977 to slightly more than 5,000 licences in 1982.

Black Bear:

Licence sales	4,024	Hunter-days of Recreation	10,010
Harvest	1,121	Hunter success	28 percent

The 1982 bear harvest, up 20% from 1981 in spite of a 7% decrease in licence sales, is indicative of higher bear populations.

Woodland Caribou:

Licence sales	136	Hunter-days of Recreation	256
Harvest	35	Hunter success	26 percent

The major concern for this lightly hunted big game species continues to be forest road access and potential destruction of caribou habitat by timber harvesting.

Antelope:

Licence sales	2,550	Hunter-days of Recreation	3,920
Harvest	2,090	Hunter success	82 percent

Hunter harvest and success increased in 1982 reflecting higher antelope populations.

Special Seasons: Park and Wildlife Management Units

Management Unit	Zone	Harvest		Hunter Success	
		Moose	Elk	Moose	Elk
Cypress Hills	3 & 4	—	—	—	—
Moose Mountain	16	—	54	—	48%
Duck Mountain	18	32	—	32%	—
Fort a la Corne	—	17	41	19%	16%
Thickwood Hills	22	—	—	—	—
Greenwater	—	7	—	14%	—

Primitive Weapons Seasons

White-tailed deer (Archery and Muzzleloaders)

Licence sales	1,958	Harvest	138	Hunter Success	7 percent
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Mule deer (Archery)

Licence sales	600	Harvest	90	Hunter Success	15 percent
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Antelope (Archery)

Licence sales	200	Harvest	19	Hunter Success	10 percent
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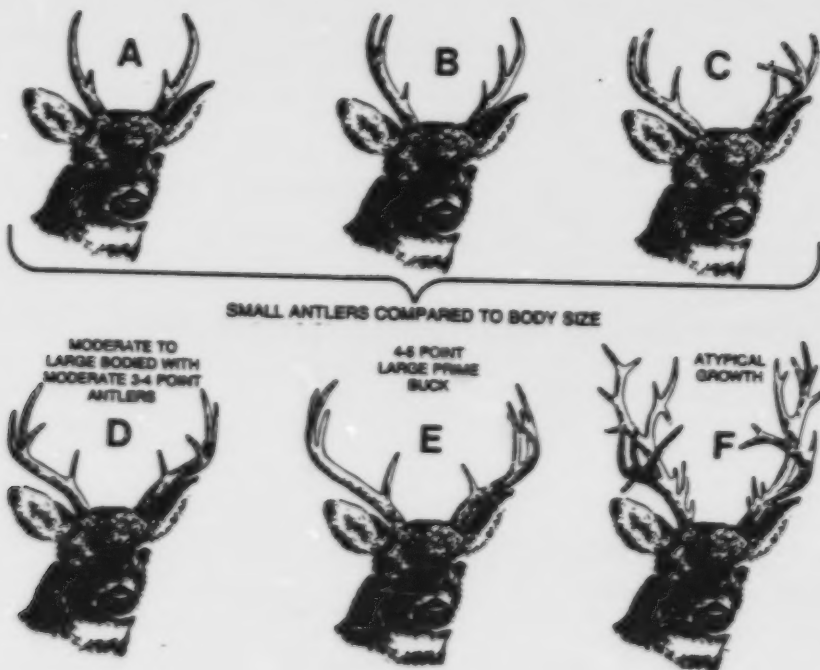
Appendix 16. 1983 Saskatchewan Co-operative Wildlife Management Study



Saskatchewan
Parks and
Renewable
Resources

Co-operative Wildlife
Management Study

Species		Herd Structure	
Location (Nearest Town)		Totals	
Year 19		Adult Males	
Month (01-12)		Adult Females	
Day (01-31)		Fawns/Calves	
Time A.M.		Productivity	
P.M.		Number of Females with:	
Temperature °C		One Fawn/Call	
Weather		Two Fawns/Calves	
Clear - 1		Three Fawns/Calves	
Cloudy - 2		Antler Configuration	
Calm - 1		Mark the Number of Males observed in each class.	
Windy - 2		Yearlings	
Habitat		A -	
Cultivated Field - 1		B -	
Pasture - 2		C -	
Wetland - 3		D -	
Shrub/Tree - 4		E -	
Forest - 5		Atypical F -	
Name			
Participant Number			
WILDLIFE BRANCH REGINA			



Appendix 17. New "1984" Saskatchewan
Wildlife Management Zone Map

WILDLIFE MANAGEMENT ZONES OF
SASKATCHEWAN
DEPARTMENT OF PARKS AND RENEWABLE RESOURCES
1984



Appendix 18. Resident White-tailed Deer Licence #1
Hunter Questionnaire Returns 1983

Old GMZ	# Active Hunters	# Questionnaires Returned	# Successful Hunter Responses
1	833	143	92
2	973	167	100
3	477	82	47
4	821	141	81
5	1283	217	115
6	2062	354	185
7	4176	710	469
8	2855	490	287
9	2651	455	205
10	2255	387	213
11	1328	228	99
12	2517	432	180
13	5163	886	381
14	967	166	93
15	1130	194	106
16	5435	909	602
17	1883	313	167
18	920	158	64
19	2469	417	236
20	827	142	57
21	3525	605	246
22	4815	823	424
23	3419	563	177
24	437	75	13
25	979	168	59
26	732	119	31
27	203	35	7
28	1773	301	95
29	64	11	1
30	2354	404	123
31	250	43	14
32	1330	225	78
33	600	103	47
34-37	32	6	1
TOTAL	61,538 *	10,472	5,095

* Hunters reporting more than one zone are counted more than once.

Appendix 19. Resident White-tailed Deer Licence #2
Hunter Questionnaire Returns 1983

Old GMZ	# Active Hunters	# Questionnaires Returned	# Successful Hunter Responses
23	1,022	231	94
24	154	35	13
25	358	81	40
26	265	60	25
27	88	20	9
30	920	208	104
31	101	23	11
32	532	117	60
33	190	43	16
TOTAL	3,630 *	818	373

* Hunters reporting more than one zone are counted more than once.

Appendix 20. Moose Harvest Composition by Zone -
Hunter Questionnaire Estimates 1983

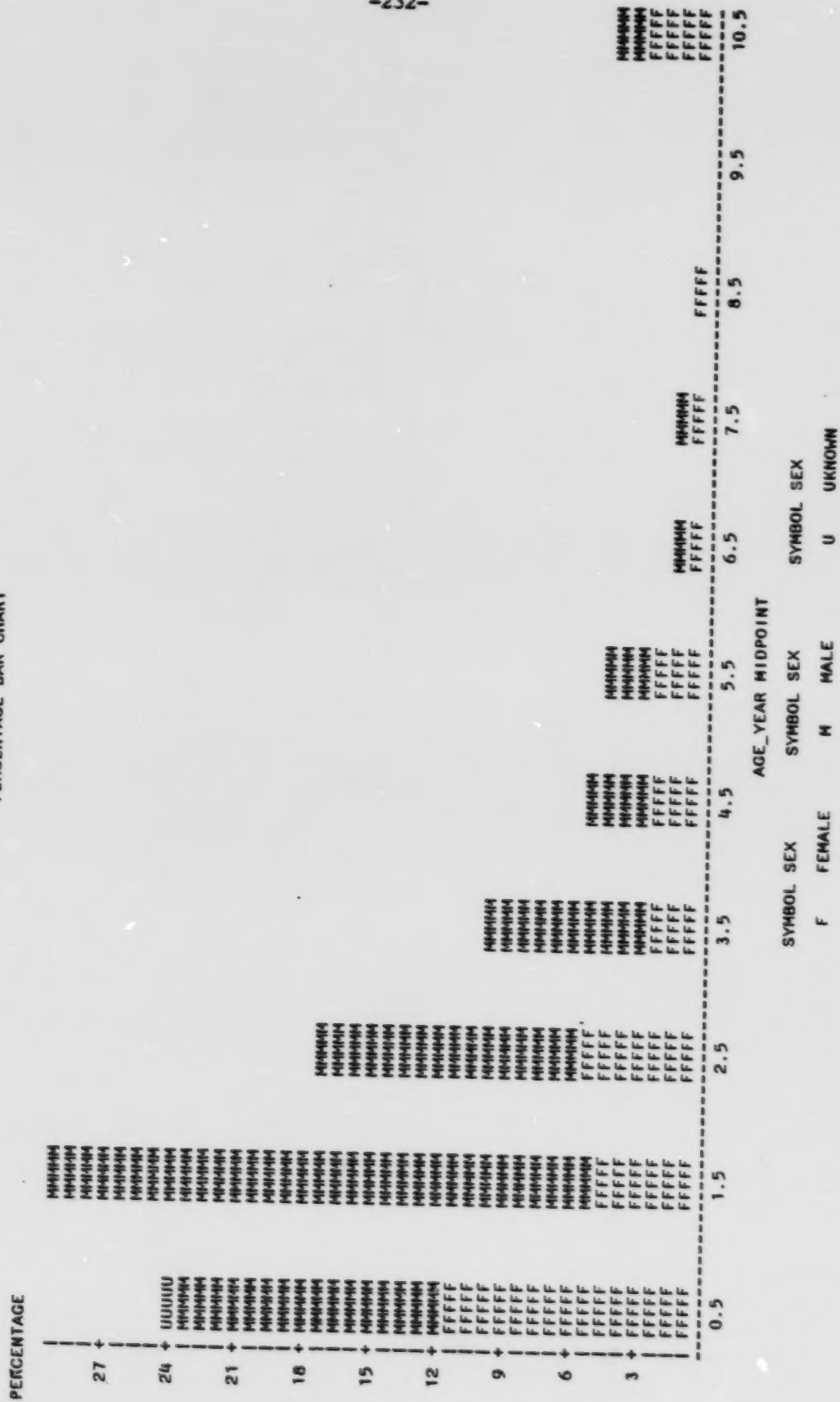
Old Zone	No. Males	No. Females	No. Calves	Total
23	389	74	255	718
24	124	0	27	151
25	101	40	61	202
26	113	34	26	173
27	46	10	19	75
28	65	0	45	110
29	20	0	5	25
30	62	8	37	107
31	60	0	20	80
32	103	28	80	211
33	40	0	20	60
34	15	0	10	25
35	0	0	10	10
36	15	0	0	15
37	0	0	0	0
Total	1,153	194	615	1,962

Appendix 21. Sex and Age Structure of Provincial Moose Harvest, Old Zones 23-33, 1983

TABLE OF SEX BY AGE_YEAR
CONTROLLING FOR GMZ= 23
SAS

SEX		AGE_YEAR												TOTAL	
FREQUENCY		0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5	9.5	10.5			
PERCENT	ROW PCT														
COL PCT															
F	4	34	13	16	7	7	6	2	2	3	0	8	98		
	.	11.37	4.35	5.35	2.34	2.34	2.01	0.67	0.67	1.00	0.00	2.68	32.78		
	.	34.69	13.27	16.33	7.14	7.14	6.12	2.04	2.04	3.06	0.00	8.16			
	.	47.22	14.77	30.77	22.58	38.69	46.15	50.00	50.00	75.00	0.00	66.67			
M	20	35	74	36	23	10	7	2	2	1	1	4	195		
	.	11.71	24.75	12.04	7.69	3.34	2.34	0.67	0.67	0.33	0.33	1.34	65.22		
	.	17.95	37.95	18.46	11.79	5.13	3.59	1.03	1.03	0.51	0.51	2.05			
	.	48.61	84.09	69.23	74.19	55.56	53.85	50.00	50.00	25.00	100.00	33.33			
U	0	3	1	0	1	1	0	0	0	0	0	0	6		
	.	1.00	0.33	0.00	0.33	0.33	0.00	0.00	0.00	0.00	0.00	0.00	2.01		
	.	50.00	16.67	0.00	16.67	16.67	0.00	0.00	0.00	0.00	0.00	0.00			
	.	4.17	1.14	0.00	3.23	5.56	0.00	0.00	0.00	0.00	0.00	0.00			
TOTAL	.	72	88	52	31	18	13	4	4	4	1	12	299		
	.	24.08	29.43	17.39	10.37	6.02	4.35	1.34	1.34	1.34	0.33	4.01	100.00		

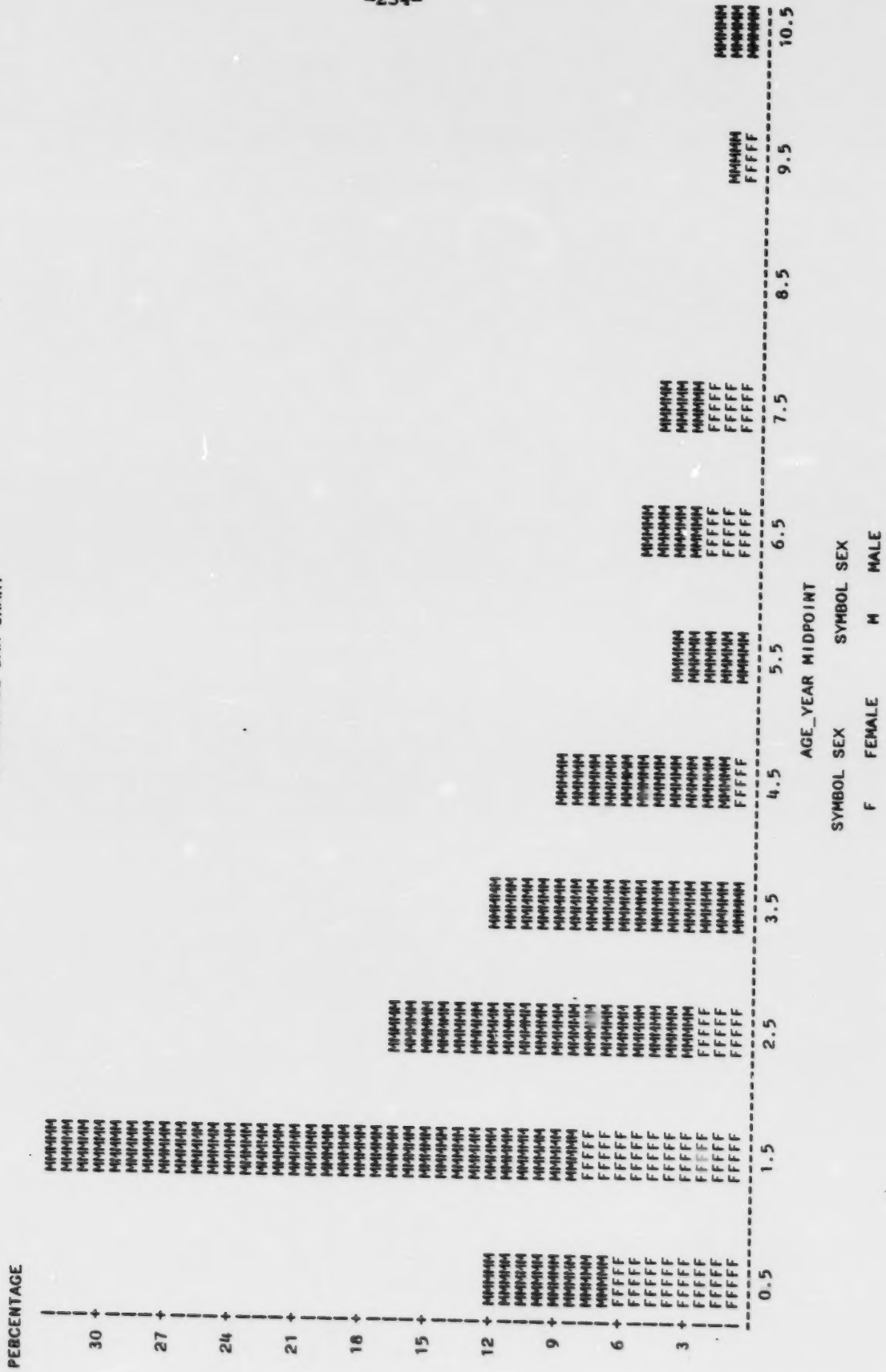
SAS
CHZ=23
PERCENTAGE BAR CHART



SAS
TABLE OF SEX BY AGE_YEAR
CONTROLLING FOR GMZ= 24

SEX	FREQUENCY PERCENT ROW PCT COL PCT	AGE_YEAR											TOTAL	
		.1	0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5	9.5		10.5
F	0	6	7	2	0	0	1	0	2	2	0	1	0	21
		6.19	7.22	2.06	0.00	0.00	1.03	0.00	2.06	2.06		1.03	0.00	21.65
	.	28.57	33.33	9.52	0.00	0.00	4.76	0.00	9.52	9.52	.	4.76	0.00	
	.	50.00	22.58	12.50	0.00	0.00	14.11	0.00	40.00	50.00	.	50.00	0.00	
H	12	6	24	14	12	12	8	4	3	2	0	1	2	76
	.	6.19	24.74	14.43	12.37	12.37	8.25	4.12	3.09	2.06	.	1.03	2.06	76.35
	.	7.89	31.58	18.42	15.79	15.79	10.53	5.26	3.95	2.63	.	1.32	2.63	
	.	50.00	77.42	87.50	100.00	100.00	88.89	100.00	60.00	50.00	.	50.00	100.00	
U	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	.	.	.	.	.	.	.	.	.	.	.	.	.	0.00
	.	.	.	.	.	.	.	.	.	.	.	.	.	
	.	.	.	.	.	.	.	.	.	.	.	.	.	
TOTAL	.	12	31	16	12	12	9	4	5	4	.	2	2	97
	.	12.37	31.96	16.49	12.37	12.37	9.28	4.12	5.15	4.12	.	2.06	2.06	100.00

SAS
GMZ=24
PERCENTAGE BAR CHART

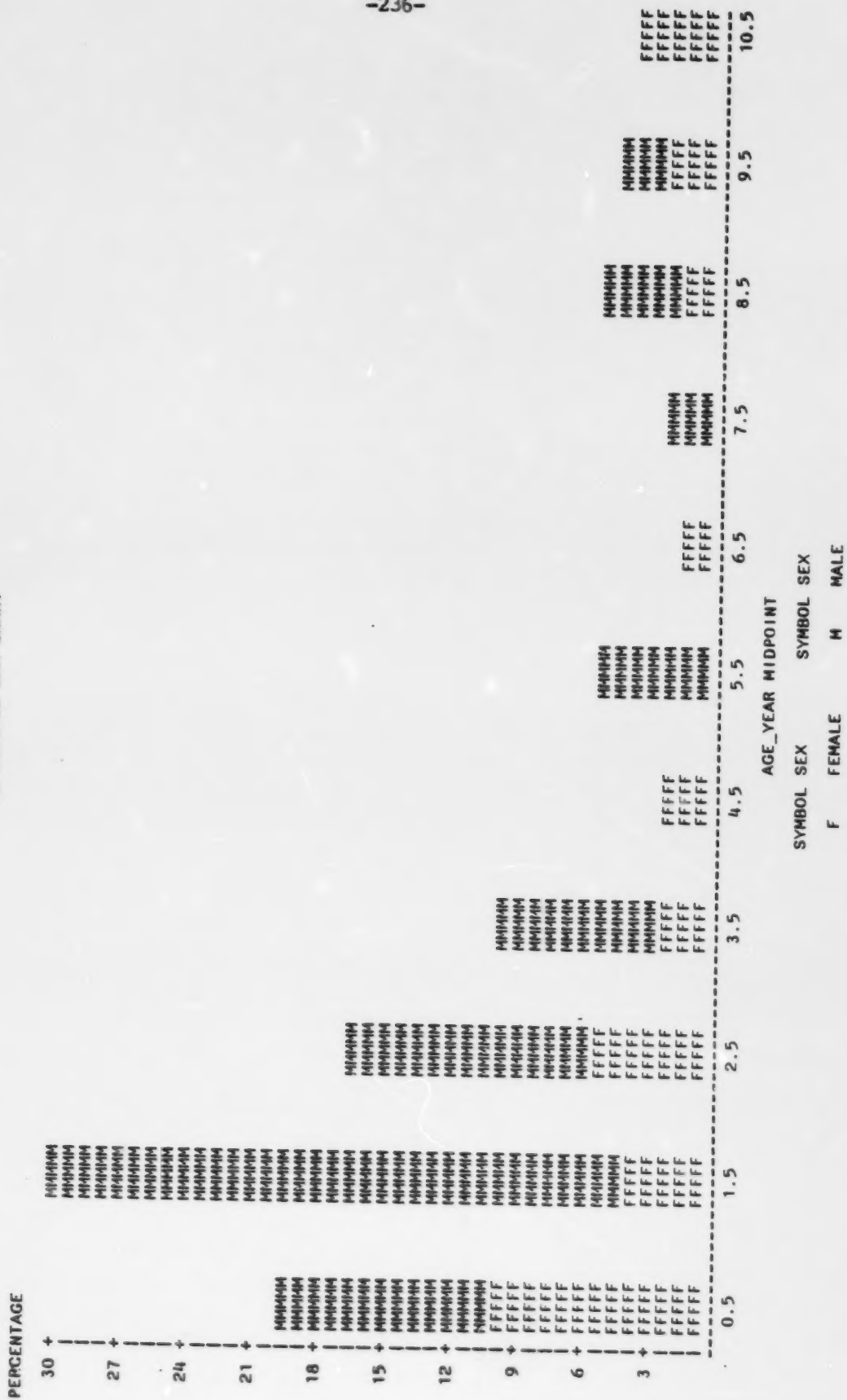


SAS
TABLE OF SEX BY AGE_YEAR
CONTROLLING FOR CHZ= 25

SEX	AGE_YEAR												TOTAL
		0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5	9.5	10.5	
F	FREQUENCY	3	3	4	2	2	0	1	0	1	2	3	26
	PERCENT	9.88	3.70	4.94	2.47	2.47	0.00	1.23	0.00	1.23	2.47	3.70	32.10
	ROW PCT	30.77	11.54	15.38	7.69	7.69	0.00	3.85	0.00	3.85	7.69	11.54	
	COL PCT	50.00	12.50	30.77	25.00	100.00	0.00	100.00	0.00	25.00	50.00	100.00	
M	FREQUENCY	6	21	9	6	0	4	0	2	3	2	0	55
	PERCENT	9.88	25.93	11.11	7.41	0.00	4.94	0.00	2.47	3.70	2.47	0.00	67.90
	ROW PCT	14.55	38.18	16.36	10.91	0.00	7.27	0.00	3.64	5.45	3.64	0.00	
	COL PCT	50.00	87.50	69.23	75.00	0.00	100.00	0.00	100.00	75.00	50.00	0.00	
U	FREQUENCY	0	0	0	0	0	0	0	0	0	0	0	0
	PERCENT	.	.	.	.	.	.	.	.	.	.	.	0.00
	ROW PCT	.	.	.	.	.	.	.	.	.	.	.	
	COL PCT	.	.	.	.	.	.	.	.	.	.	.	
TOTAL	FREQUENCY	9	24	13	8	2	4	1	2	4	4	3	81
	PERCENT	19.75	29.63	16.05	9.88	2.47	4.94	1.23	2.47	4.94	4.94	3.70	100.00

SAS
CMZ=25

PERCENTAGE BAR CHART

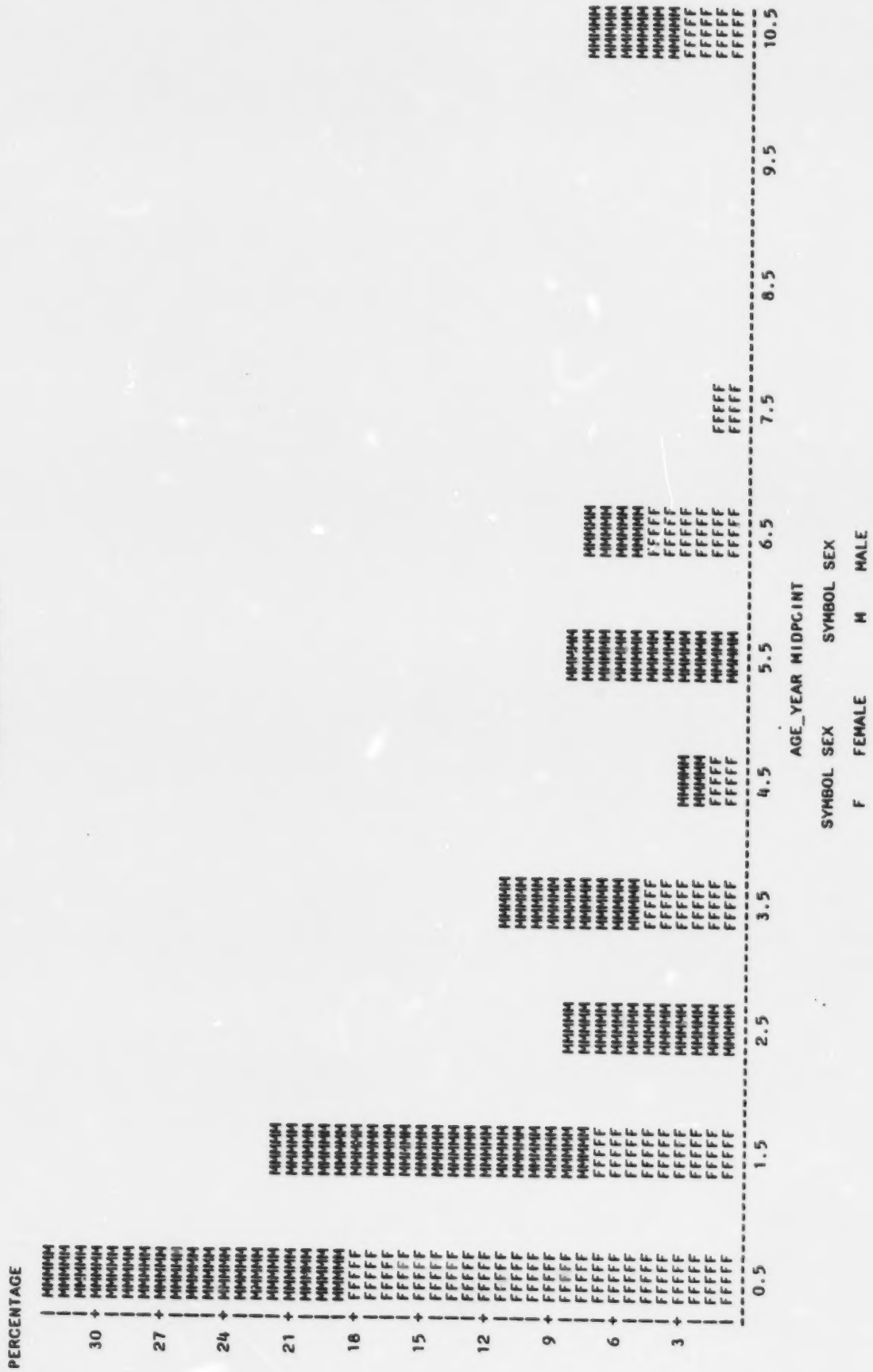


SAS
TABLE OF SEX BY AGE_YEAR
CONTROLLING FOR GMZ=26

SEX	AGE_YEAR	FREQUENCY / PERCENT												TOTAL
		0	0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5	9.5	10.5	
F		4	13	5	0	3	1	0	3	1	0	0	2	28 38.89
			18.06	6.94	0.00	4.17	1.39	0.00	4.17	1.39			2.78	
			46.43	17.86	0.00	10.71	3.57	0.00	10.71	3.57			7.14	
M			56.52	31.25	0.00	37.50	50.00	0.00	60.00	100.00			40.00	44 61.11
		14	10	11	6	5	1	6	2	0	0	0	3	
			13.89	15.28	8.33	6.94	1.39	8.33	2.78	0.00			4.17	
U			22.73	25.00	13.64	11.36	2.27	13.64	4.55	0.00			6.82	0 0.00
			43.48	68.75	100.00	62.50	50.00	100.00	40.00	0.00			60.00	
		0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL														72 100.00
		23	23	16	6	8	2	6	5	1			5	
		31.94	31.94	22.22	8.33	11.11	2.78	8.33	6.94	1.39			6.94	

SAS
GNZ=26

PERCENTAGE BAR CHART



SAS
GM2-27
PERCENTAGE BAR CHART

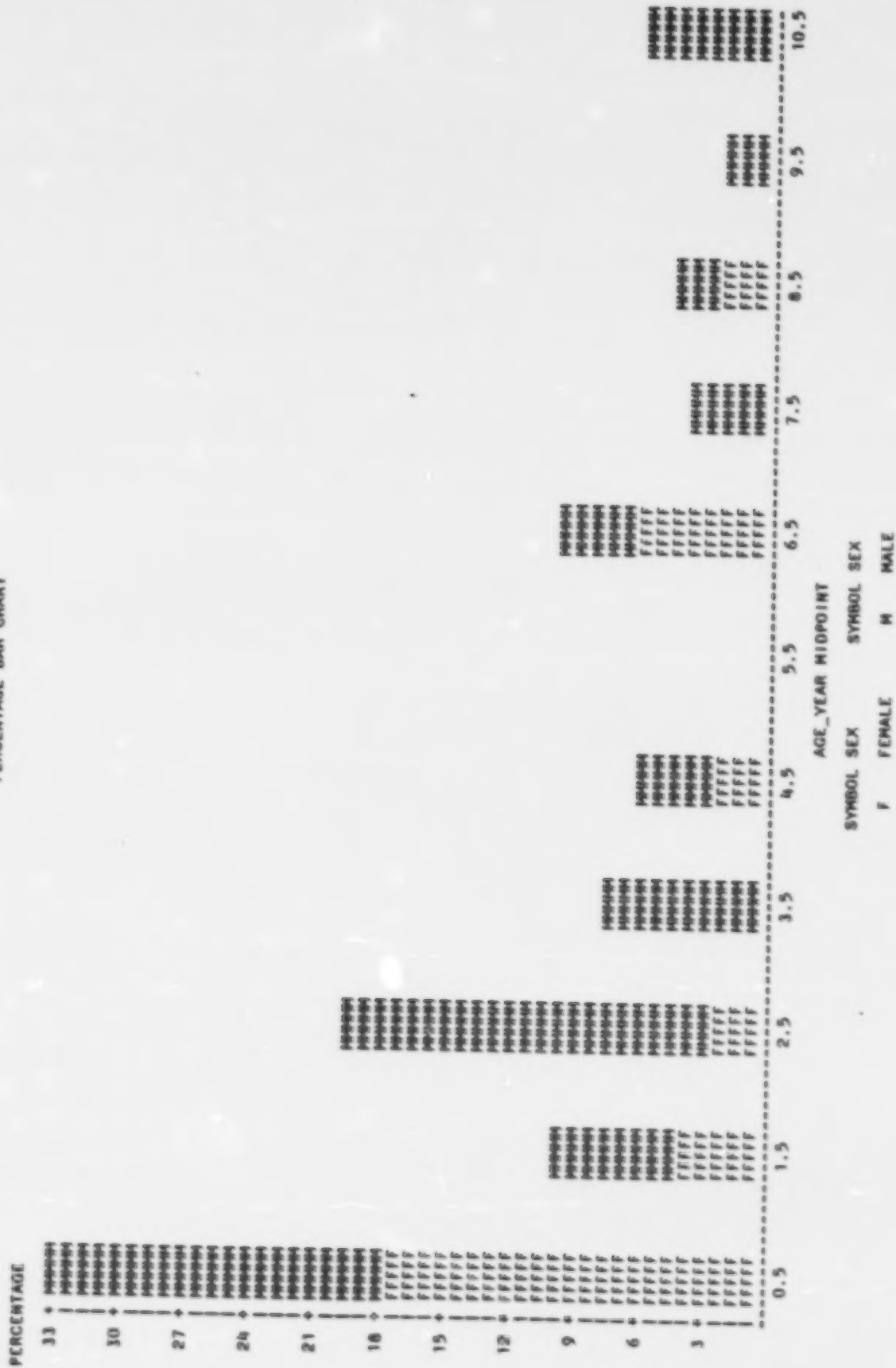


TABLE OF SEX BY AGE_YEAR
CONTROLLING FOR QMZ=28

[illegible]

SAS
GMZ-28
PERCENTAGE BAR CHART

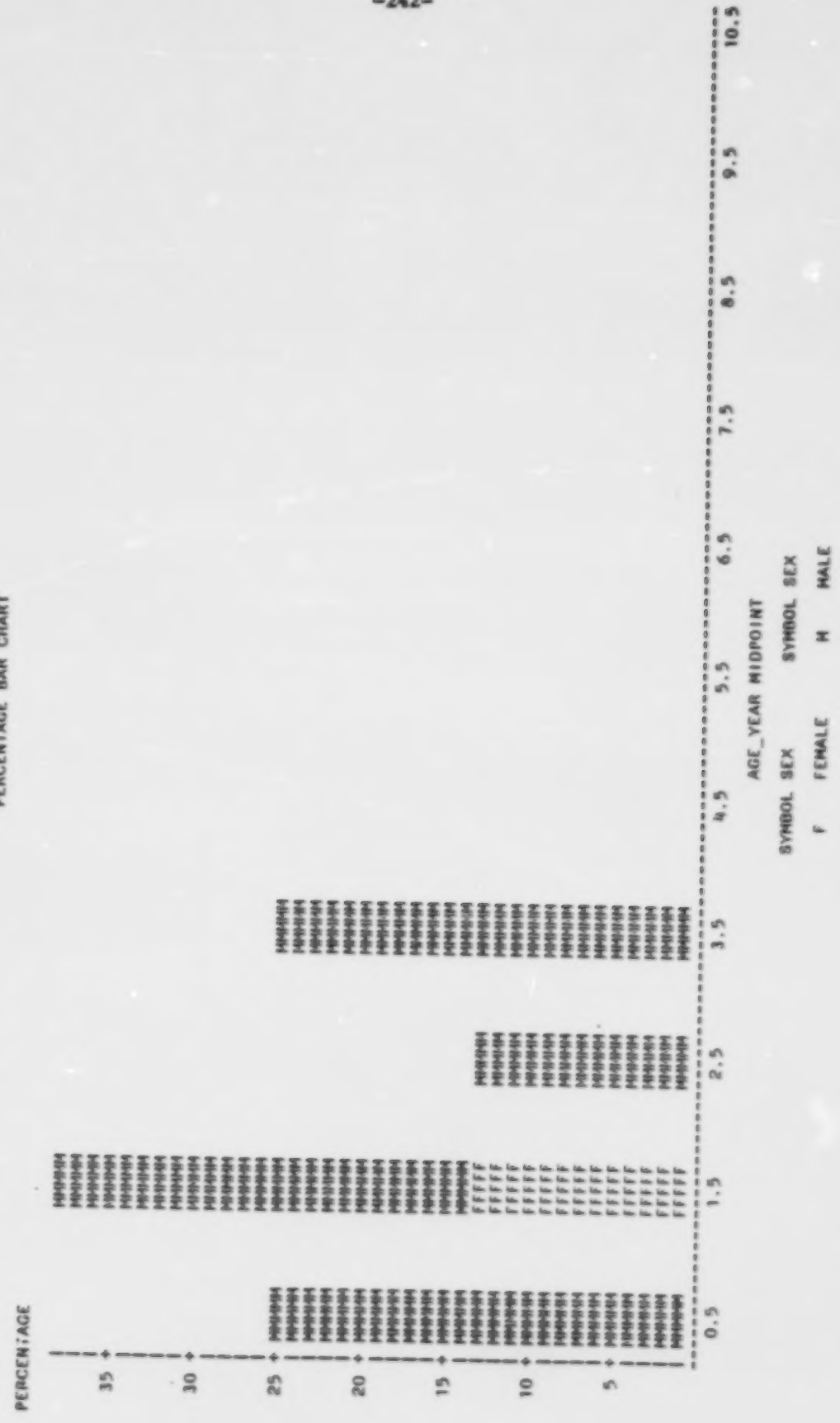
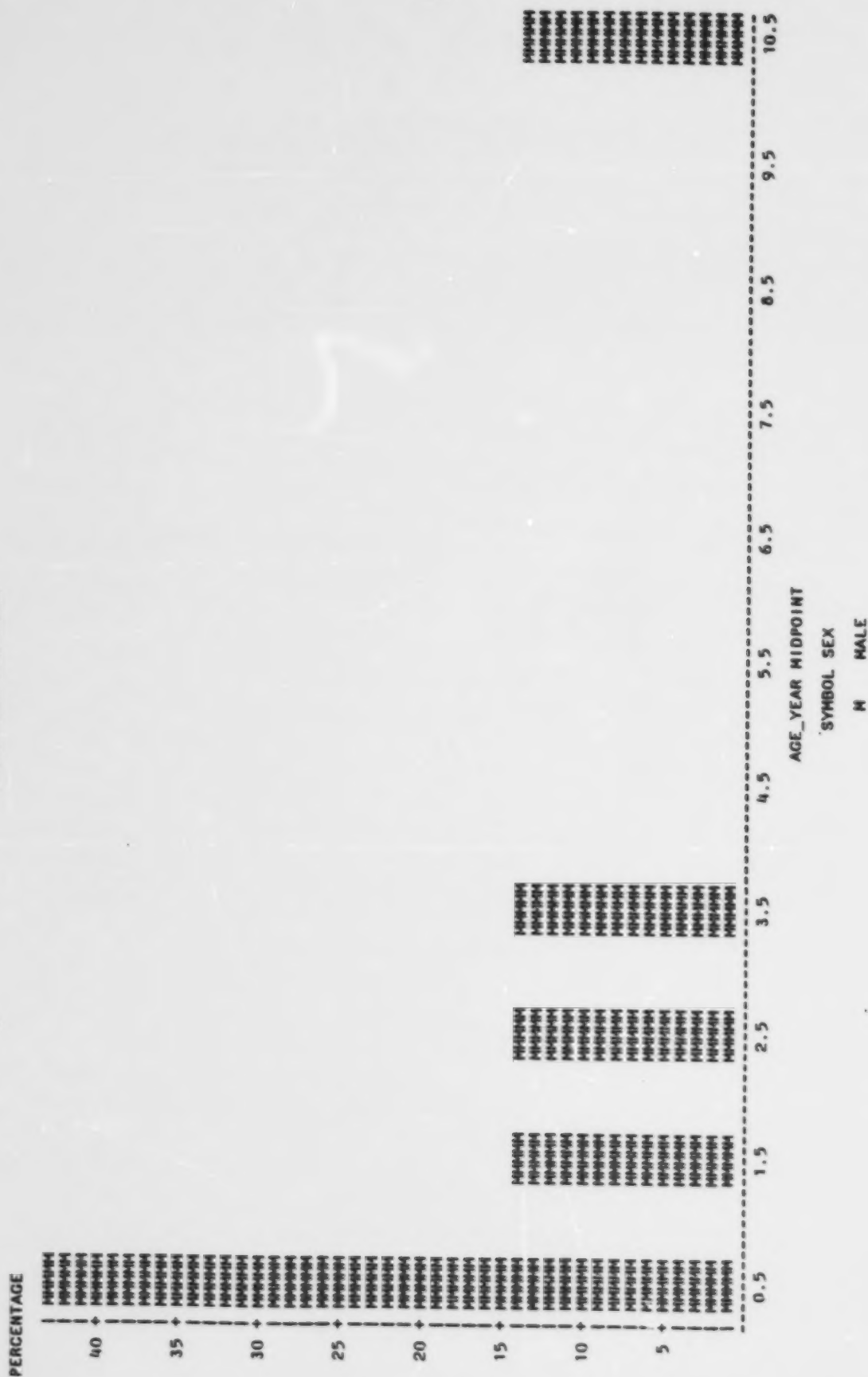


TABLE OF SEX BY AGE YEAR
CONTROLLING FOR CMZ=29

[illegible]

SAS
CHZ=29
PERCENTAGE BAR CHART

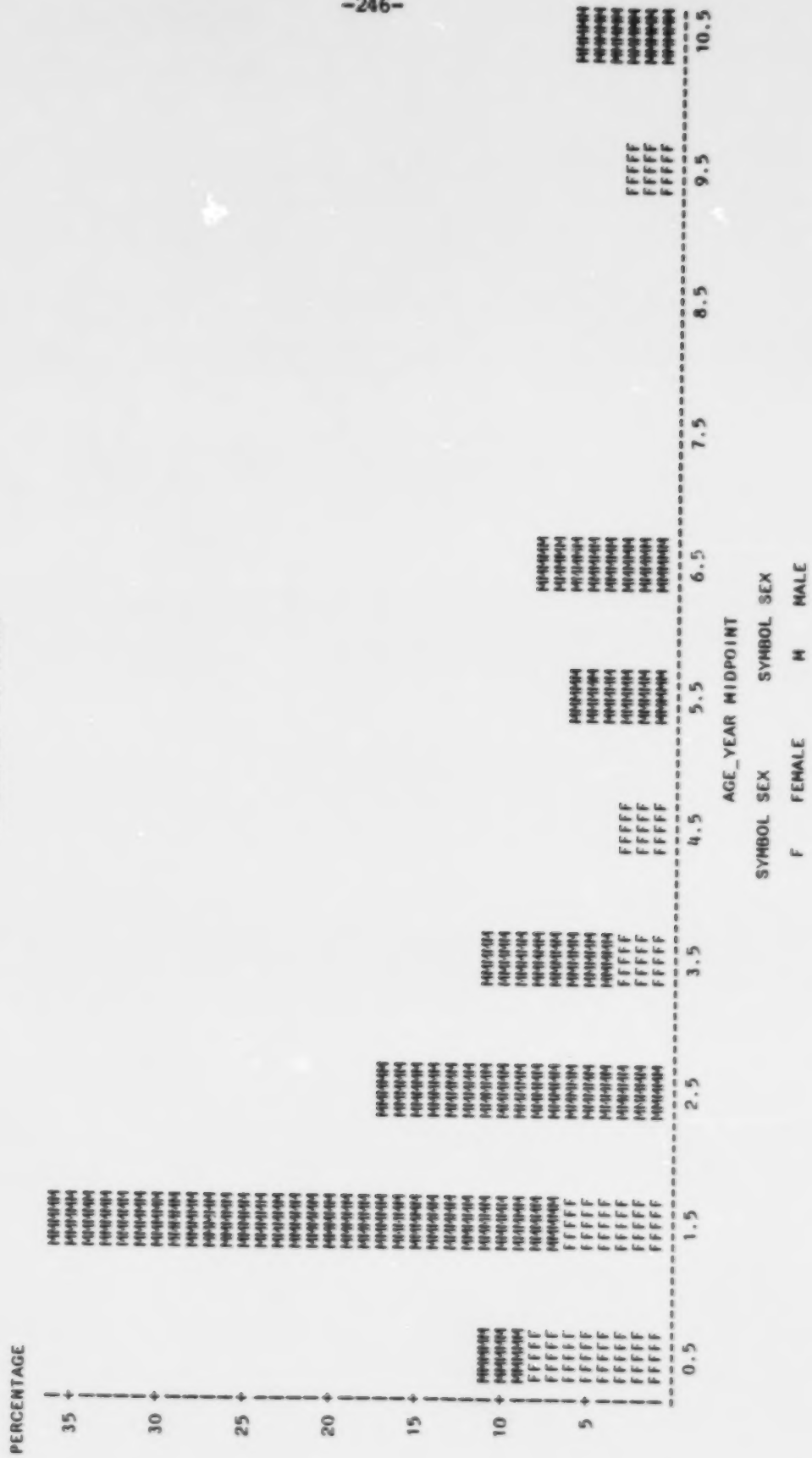


SAS
TABLE OF SEX BY AGE_YEAR
CONTROLLING FOR CHZ=30

SEX	AGE_YEAR												TOTAL
	0	0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5	9.5	10.5	
F	FREQUENCY	0	3	2	0	1	1	0	0	0	0	0	8
	PERCENT	.	6.33	5.56	0.00	2.78	2.78	0.00	0.00	0.00	2.78	0.00	22.22
	ROW PCT	.	37.50	25.00	0.00	12.50	12.50	0.00	0.00	0.00	12.50	0.00	
	COL PCT	.	75.00	15.38	0.00	25.00	100.00	0.00	0.00	0.00	100.00	0.00	
M	FREQUENCY	0	1	11	6	3	0	2	3	0	0	2	26
	PERCENT	.	2.78	30.56	16.67	8.33	0.00	5.56	8.33	0.00	0.00	5.56	77.78
	ROW PCT	.	3.57	39.29	21.43	10.71	0.00	7.14	10.71	0.00	0.00	7.14	
	COL PCT	.	25.00	84.62	100.00	75.00	0.00	100.00	100.00	0.00	0.00	100.00	
U	FREQUENCY	0	0	0	0	0	0	0	0	0	0	0	0
	PERCENT	.	.	.	.	.	.	.	.	.	.	.	0.00
	ROW PCT	.	.	.	.	.	.	.	.	.	.	.	
	COL PCT	.	.	.	.	.	.	.	.	.	.	.	
TOTAL	.	4	13	6	4	1	2	3	.	.	1	2	36
	.	11.11	36.11	16.67	11.11	2.78	5.56	8.33	.	.	2.78	5.56	100.00

SAS
GMZ=30

PERCENTAGE BAR CHART

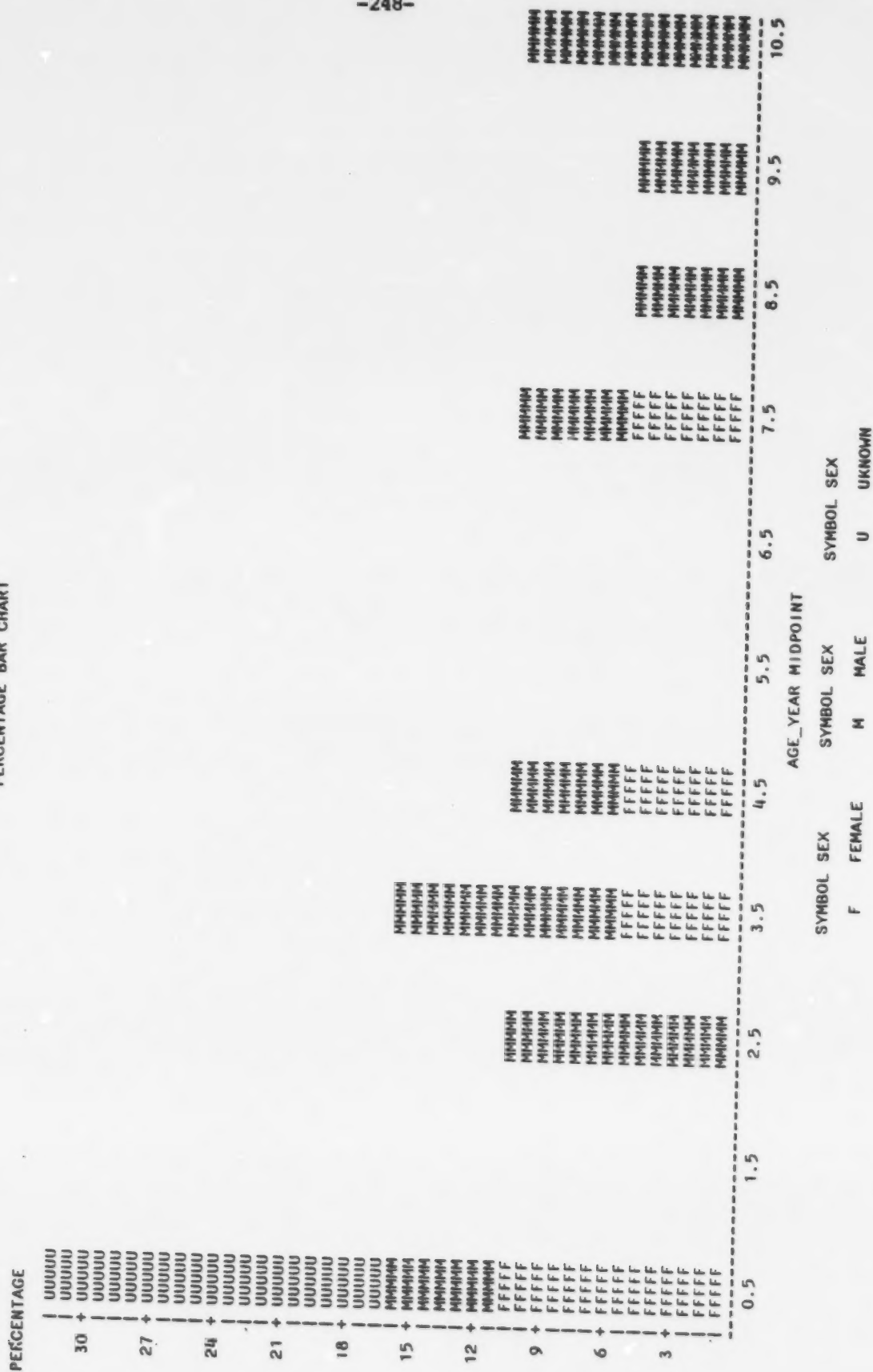


SAS
TABLE OF SEX BY AGE_YEAR
CONTROLLING FOR GMZ= 31

SEX	AGE_YEAR	0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5	9.5	10.5	TOTAL
FREQUENCY													
PERCENT													
ROW PCT													
COL PCT													
F	0	2	0	0	1	1	0	0	1	0	0	0	5
		10.53		0.00	5.26	5.26			5.26	0.00	0.00	0.00	26.32
	.	40.00	.	0.00	20.00	20.00	.	.	20.00	0.00	0.00	0.00	
	.	33.33	.	0.00	33.33	50.00	.	.	50.00	0.00	0.00	0.00	
M	0	1	0	2	2	1	0	0	1	1	1	2	11
		5.26		10.53	10.53	5.26			5.26	5.26	5.26	10.53	57.89
	.	9.09	.	18.18	18.18	9.09	.	.	9.09	9.09	9.09	18.18	
	.	16.67	.	100.00	66.67	50.00	.	.	50.00	100.00	100.00	100.00	
U	0	3	0	0	0	0	0	0	0	0	0	0	3
		15.79		0.00	0.00	0.00			0.00	0.00	0.00	0.00	15.79
	.	100.00	.	0.00	0.00	0.00	.	.	0.00	0.00	0.00	0.00	
	.	50.00	.	0.00	0.00	0.00	.	.	0.00	0.00	0.00	0.00	
TOTAL	.	6	.	2	3	2	.	.	2	1	1	2	19
		31.58		10.53	15.79	10.53			10.53	5.26	5.26	10.53	100.00

SAS
GMZ=31

PERCENTAGE BAR CHART

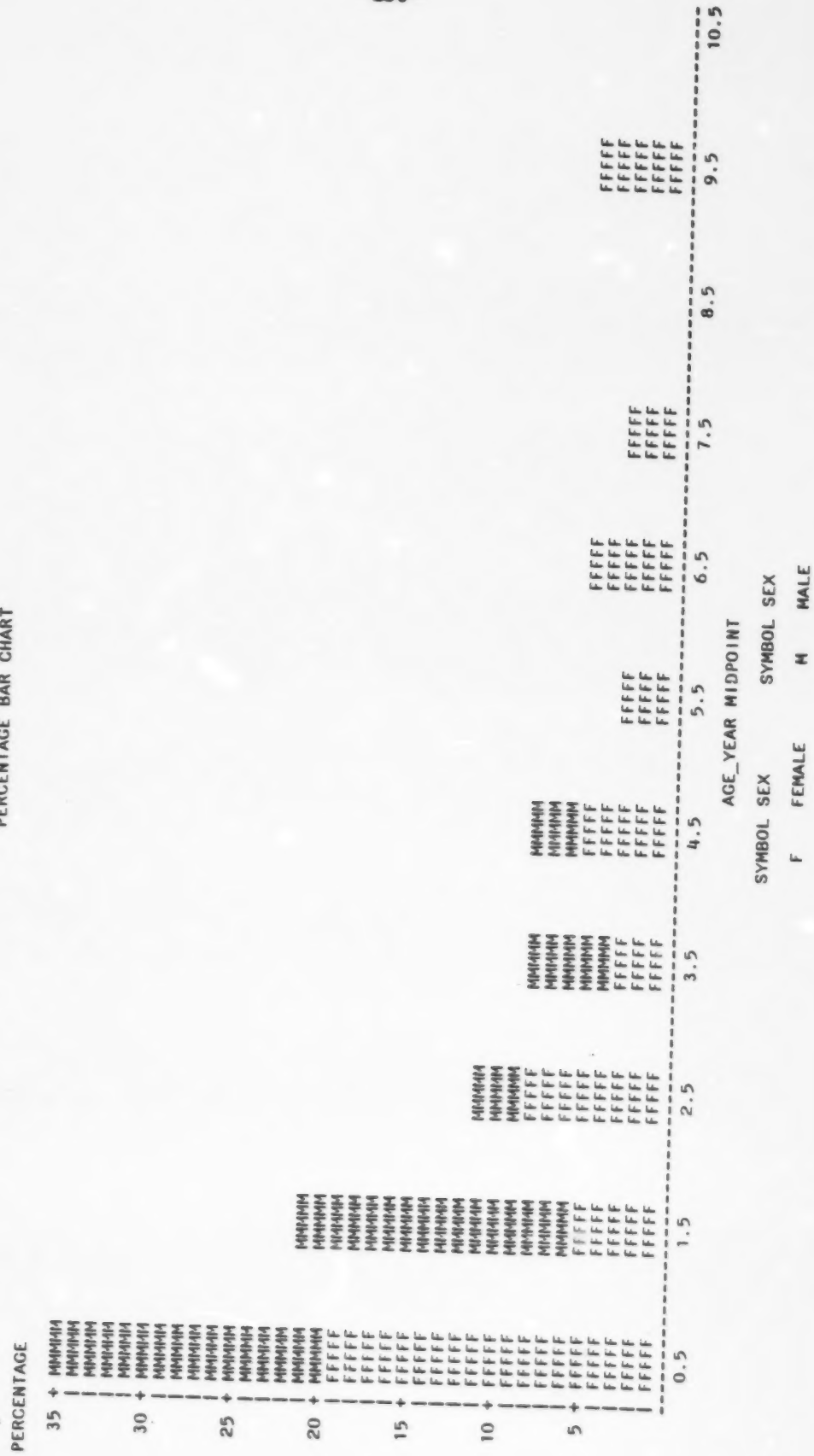


SAS

TABLE OF SEX BY AGE_YEAR
CONTROLLING FOR GMZ= 32

SEX	AGE_YEAR														TOTAL
	FREQUENCY														
	PERCENT														
	ROW PCT	COL PCT													
	1	0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5	9.5	10.5			
F	1	7	2	3	1	2	1	2	1	0	2	0	21		
	.	18.92	5.41	8.11	2.70	5.41	2.70	5.41	2.70	.	5.41	.	56.76		
	.	33.33	9.52	14.29	4.76	9.52	4.76	9.52	4.76	.	9.52	.			
	.	53.85	25.00	75.00	33.33	66.67	100.00	100.00	100.00	.	100.00	.			
M	0	6	6	1	2	1	0	0	0	0	0	0	16		
	.	16.22	16.22	2.70	5.41	2.70	0.00	0.00	0.00	.	0.00	.	43.24		
	.	37.50	37.50	6.25	12.50	6.25	0.00	0.00	0.00	.	0.00	.			
	.	46.15	75.00	25.00	66.67	33.33	0.00	0.00	0.00	.	0.00	.			
U	0	0	0	0	0	0	0	0	0	0	0	0	0		
	.	.	.	.	.	.	.	.	.	.	.	.	0.00		
	.	.	.	.	.	.	.	.	.	.	.	.			
	.	.	.	.	.	.	.	.	.	.	.	.			
TOTAL	.	13	8	4	3	3	1	2	1	2	2	2	37		
	.	35.14	21.62	10.81	8.11	8.11	2.70	5.41	2.70	5.41	5.41	5.41	100.00		

PERCENTAGE BAR CHART



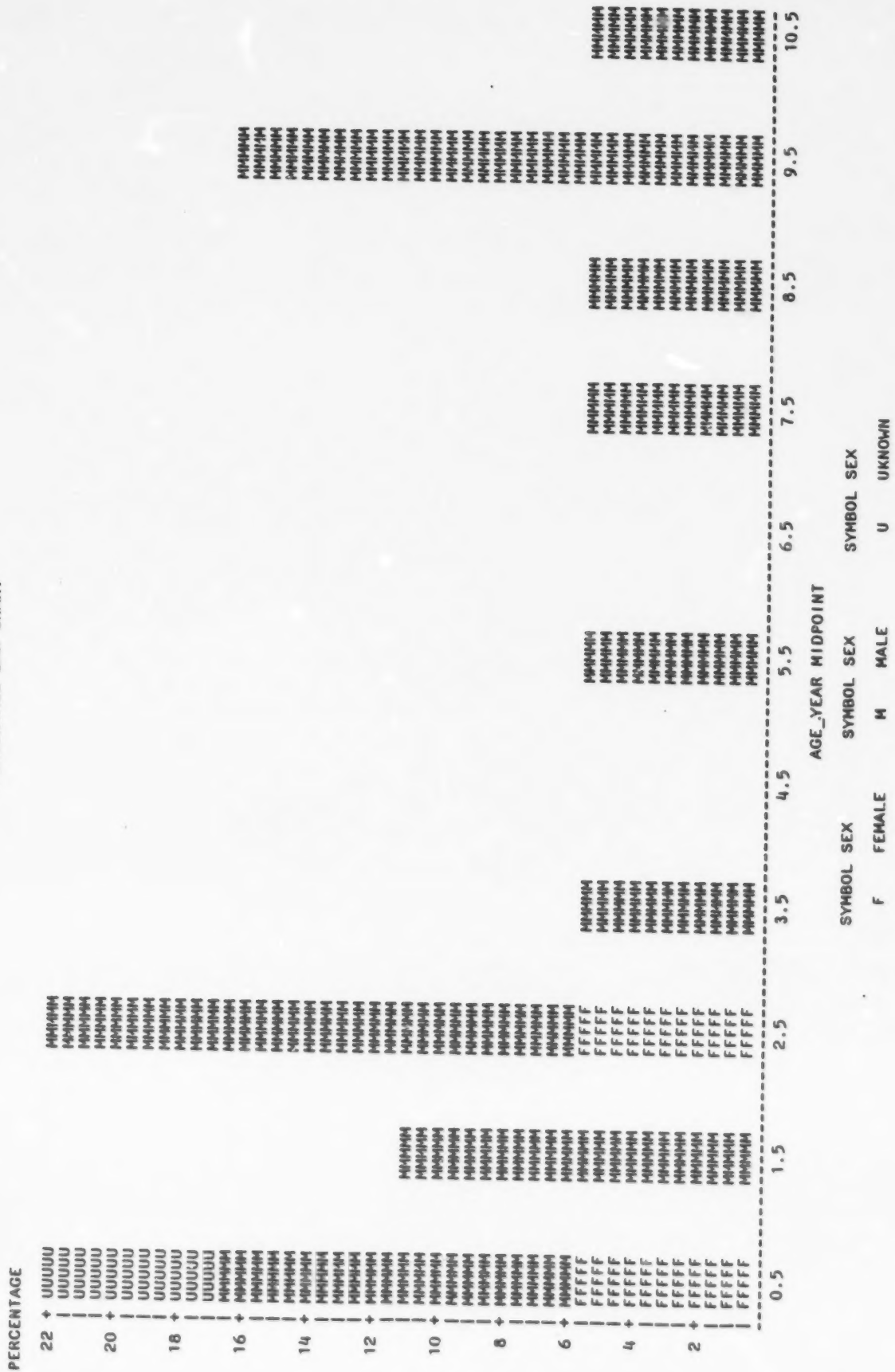
SAS

TABLE OF SEX BY AGE YEAR
CONTROLLING FOR GMZ=-33

SEX	AGE_YEAR	FREQUENCY												TOTAL
		0	1	2	3	4	5	6	7	8	9	10	11	
F		0	5.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.11
		.	50.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		.	25.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
M		4	2	11.11	16.67	5.56	5.56	0.00	5.56	5.56	16.67	5.56	1	83.33
		.	13.33	13.33	20.00	6.67	6.67	.	6.67	6.67	20.00	6.67	3	
		.	50.00	100.00	75.00	100.00	100.00	.	100.00	100.00	100.00	100.00	100.00	
U		0	1	0	0	0	0	0	0	0	0	0	0	5.56
		.	5.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		.	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
TOTAL		.	22.22	11.11	22.22	5.56	5.56	.	5.56	5.56	16.67	5.56	1	18
		.	22.22	11.11	22.22	5.56	5.56	.	5.56	5.56	16.67	5.56	1	100.00

NOTE: TABLE IS ALL MISSING DATA. NOTHING TO PRINT.
USE THE MISSING OPTION IF YOU WANT IT PRINTED.

SAS
GMZ=33
PERCENTAGE BAR CHART



Appendix 22. Regular Moose Hunter Questionnaire Returns 1983

Old GMZ	# Active Hunters	# Questionnaires Returned	# Successful Hunter Responses
23	2512	563	119
24	691	155	21
25	678	152	24
26	713	160	21
27	214	48	11
28	629	141	22
29	187	42	5
30	669	151	20
31	530	119	17
32	508	114	25
33	236	53	12
34	120	27	5
35	89	20	2
36	93	21	3
37	31	7	0
TOTAL	7900 *	1773 * (19.4%)	307

* Hunters hunting in more than one GMZ are counted more than once.

Appendix 23. Special Moose Hunter Questionnaire Returns 1983

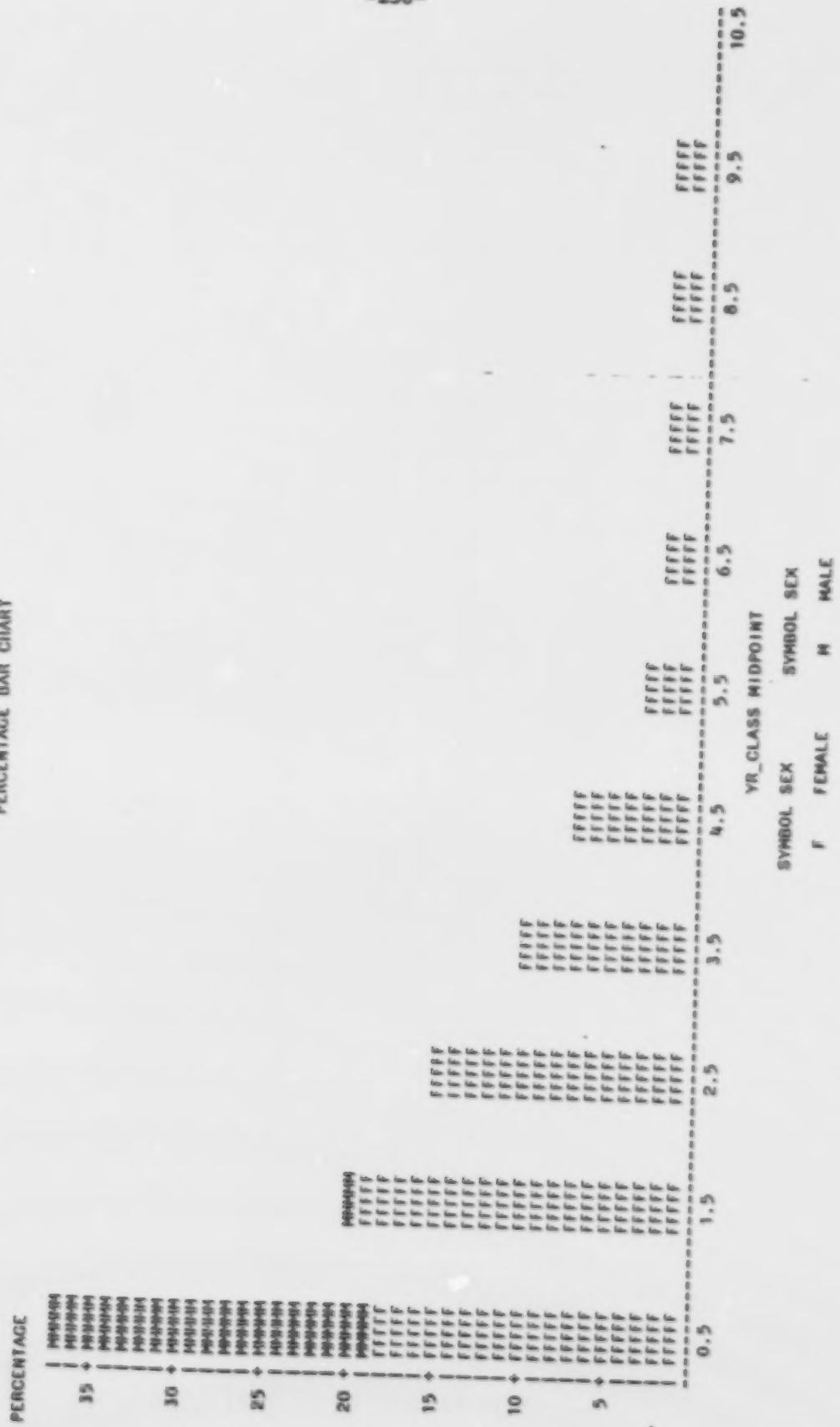
Old GMZ	No. Active Hunters	No. Questionnaires Returned	No. Successful Hunter Responses
18	100	44	14
21	100	58	27
23	400	165	78
24	400	186	41
25	300	145	47
26	200	96	37
27	100	47	18
30	100	40	7
32	200	106	44
TOTAL	1,900	912 (48%)	313

SAS
TABLE OF SEX BY YR_CLASS
CONTROLLING FOR CHZ=05

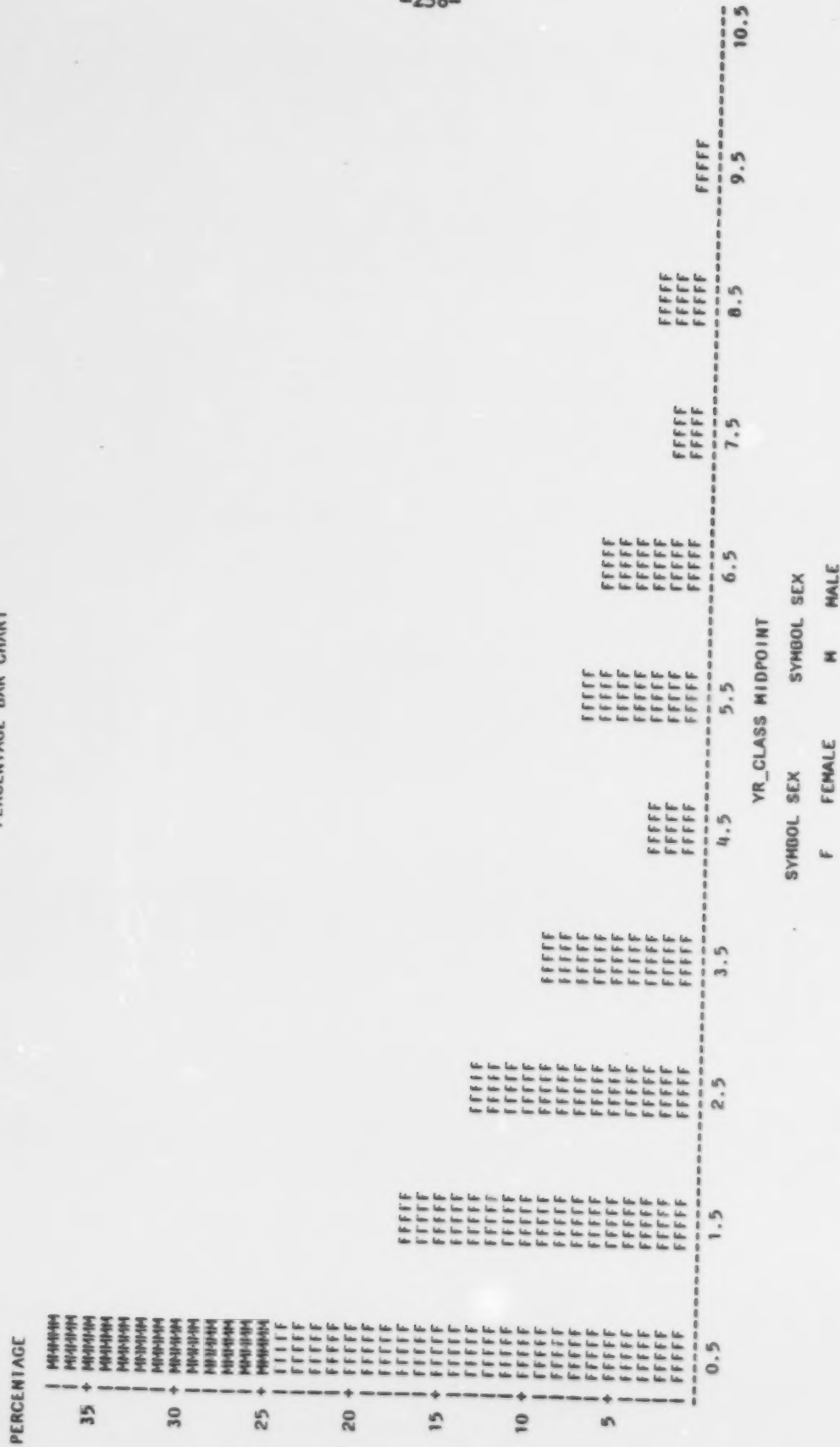
SEX	FREQ PERCENT	ROW PCT	COL PCT	YR_CLASS												TOTAL
				0	1	2	3	4	5	6	7	8	9	10	11	
F				57	60	47	32	24	10	5	8	6	2	6		257
	17.65	18.58	14.55	9.91	7.43	3.10	1.55	2.48	3.11	1.86	0.62	1.86	0.62	1.86		79.57
	22.18	23.35	18.29	12.45	9.34	3.89	1.95	3.11	100.00	100.00	100.00	100.00	100.00	100.00		
	47.90	93.75	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00		
M				62	4	0	0	0	0	0	0	0	0	0		66
	19.20	1.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		20.43
	93.94	6.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	52.10	6.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
TOTAL	119	64	47	32	24	10	5	8	10	5	8	6	2	6		323
	36.84	19.81	14.55	9.91	7.43	3.10	1.55	2.48	3.10	1.55	2.48	1.86	0.62	1.86		100.00

Appendix 24. Year-Class Composition of Antlerless Mule Deer Harvest, old GZ 5, 6A, 6B, 6C, 1983

SAS
GM2-05
PERCENTAGE BAR CHART

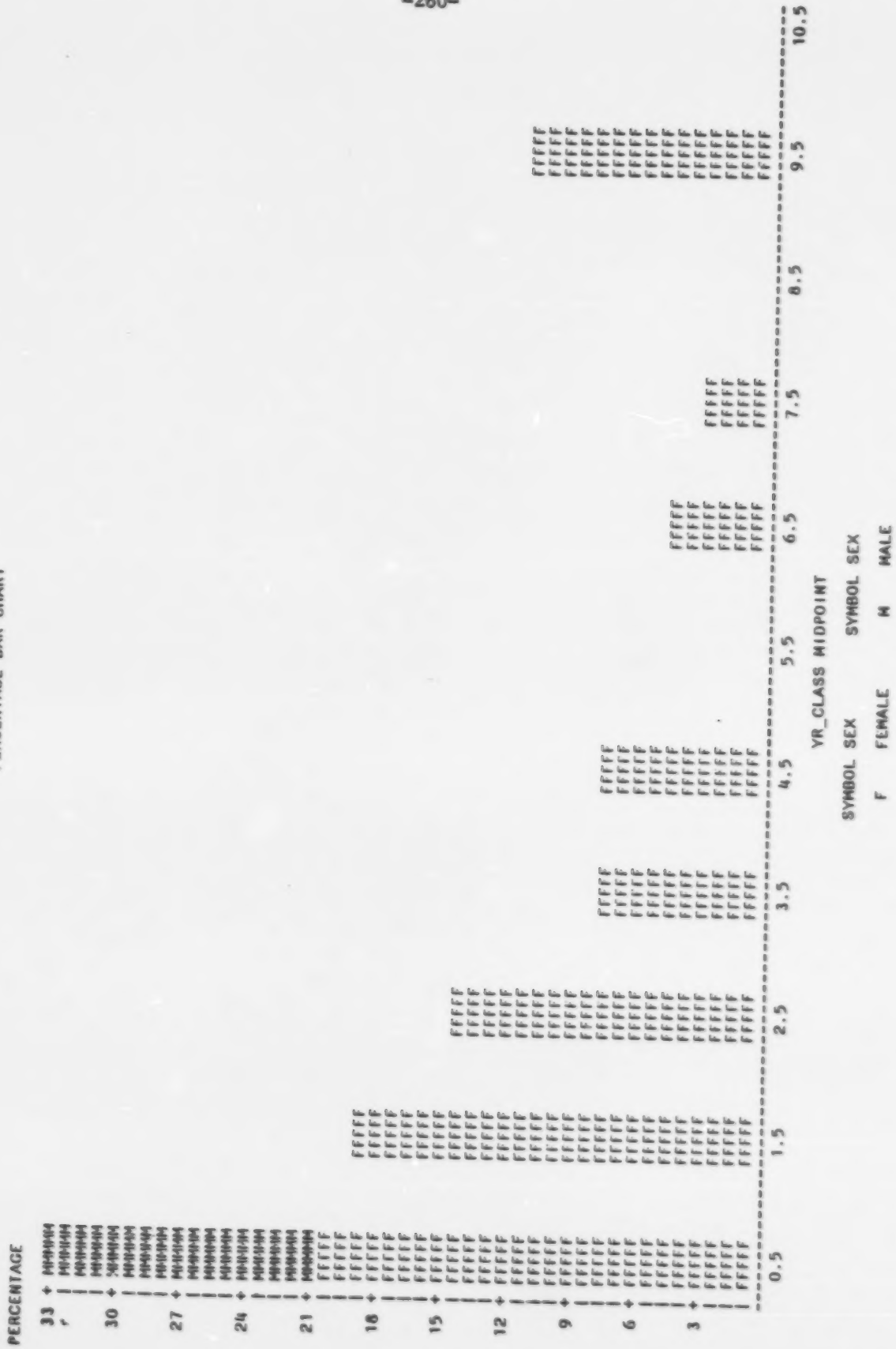


SAS
GMZ=06A
PERCENTAGE BAR CHART



SAS
GM2-06B

PERCENTAGE BAR CHART

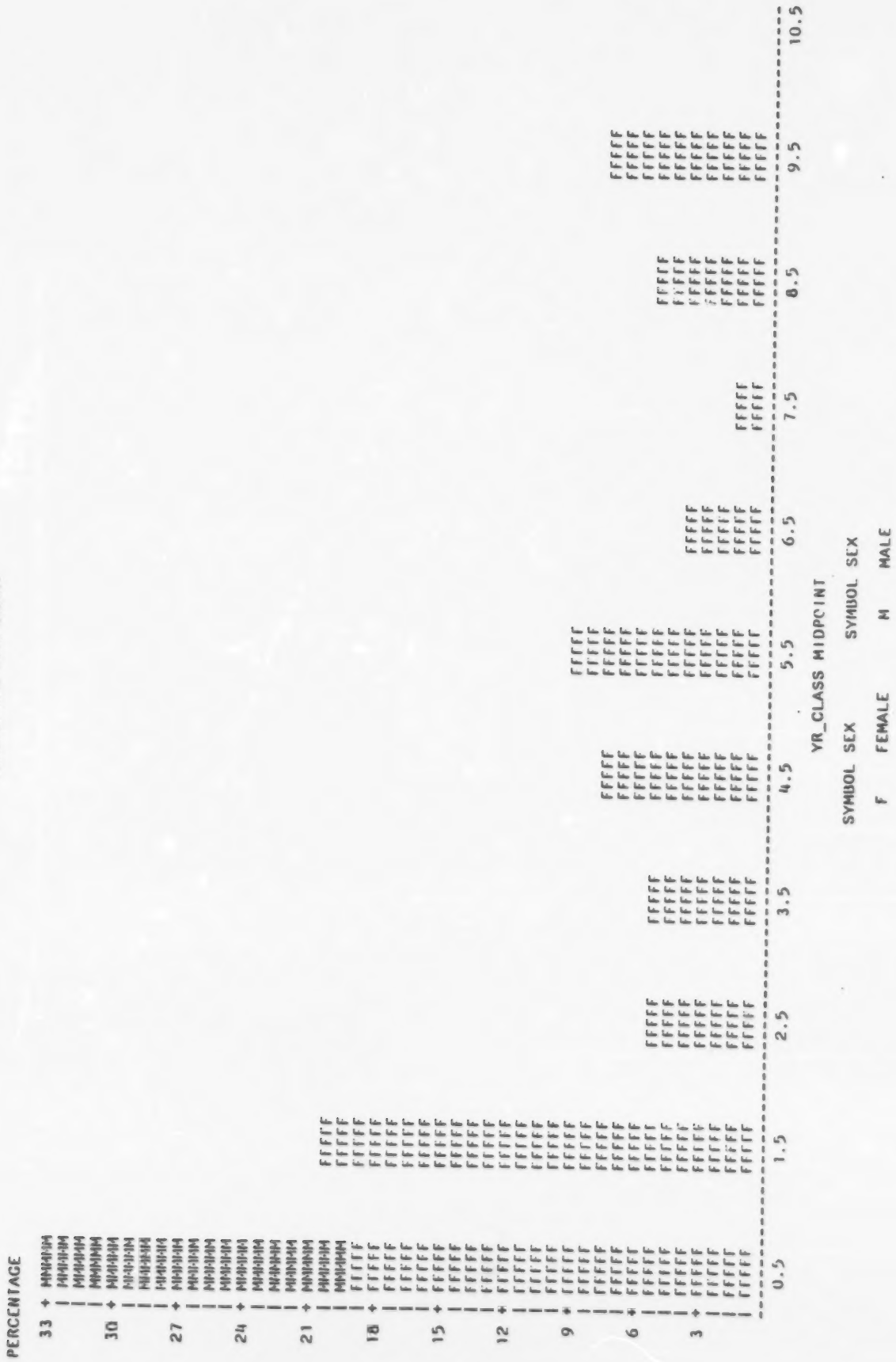


SAS
TABLE OF SEX BY YR_CLASS
CONTROLLING FOR QMZ=06C

SEX		YR_CLASS											TOTAL
FREQUENCY	PERCENT	0	1	2	3	4	5	6	7	8	9	10	
ROW PCT	COL PCT												
F		3	10	11	3	3	5	2	1	3	1	3	46
			18.52	20.37	5.56	5.56	9.26	3.70	1.85	5.56	1.85	5.56	85.19
			21.74	23.91	6.52	6.52	10.87	4.35	2.17	6.52	2.17	6.52	
			55.56	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	
M		0	8	0	0	0	0	0	0	0	0	0	8
			14.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.81
			100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			44.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
TOTAL		3	18	11	3	3	5	2	1	3	1	3	54
			33.33	20.37	5.56	5.56	9.26	3.70	1.85	5.56	1.85	5.56	100.00

SAS
CMZ=06C

PERCENTAGE BAR CHART



Appendix 25. Mule Deer Hunter Questionnaire Returns 1983

Old GMZ	# Hunters (Regular & Antlerless)	# Questionnaires Returned	# Successful Hunter Responses	% Success
1	50	43	34	79
2	1100	663	571	86
3	600	349	310	89
4	400	245	212	86
5	1400 + 700	913 + 395	802 + 371	88 - 94
6	Unspecified	276 + 64	187 + 53	68 - 83
6A	1200 + 500	632 + 208	538 + 180	85 - 87
6B	150 + 100	95 + 55	84 + 55	88 - 100
6C	200 + 150	142 + 93	124 + 89	87 - 96
8	250	190	155	82
9	50	37	24	65
12	200	160	115	72
13	50	50	34	68
14	50	42	26	62
22	50	40	20	50
TOTAL	5750 + 1450	3877 + 815	3236 + 748	83 - 92

Appendix 26. Regular Season Elk Hunter-Questionnaire Returns - 1983

Old GMZ	No. Active Hunters	No. Questionnaires Returned	No. Successful Responses
23	1,585	406	54
24	70	18	2
25	101	26	3
26	109	28	0
27	66	17	1
28	433	111	8
29	7	2	0
30	382	98	11
33	46	12	0
Total	2,798	718	79

Appendix 27. Special Season Elk Hunter Questionnaire Returns 1983

Old GMZ	No. Licences	No. Questionnaires Returned	No. Successful Reponses
3,4	100	74	30
16	200	113	67
21	275	122	36
23	300	120	14
Total	875	429	147

POOR

QUALITY

ORIGINAL